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FRED'K A. CASTLE, M.D., - - EDITOR.
CHARLES RICE, PH.D., - ASSOCIATE EDITOR.

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EDITORIAL.

Physician's Prescriptions; and the Rights of Customers, Druggists, and Doctors Therein.

A CORRESPONDENT in New Jersey has asked: 1. "Is there a law in this State forbidding a druggist to return a physician's prescription to the customer? 2. Is there a law giving the druggist a right to retain all prescriptions?"

So far as we have knowledge of the laws of the State of New Jersey, there is nothing on the statute books which would apply to either case. And this is well. For it would be an injustice. A great deal has been said and written about the ownership of prescriptions, and a large amount of the discussion has been prompted by one-sided and interested views. The matter is, however, much more simple of solution than it has been sometimes supposed.

A prescription is the practical and material portion of the advice of the physician when consulted by a patient. It is an act emanating from the physician, which the latter may perform either as an act of charity, or for which he may demand compensation. In either case, the physician is entitled to attach to the prescription—which is his undoubted property, until he has either freely given or sold it to the patient—any conditions which he may choose to put. If the patient refuses to accept it under such conditions, the physician has a right to retain his prescription. If the patient accepts the conditions, we hold that he becomes *temporary owner* thereof, but remains so *only as long as he adheres to the conditions.* In fact, it is a contract, by which the physician agrees to do a certain act for the benefit of his patient—the latter having, on *his* part, likewise certain obligations to fulfil. This portion of our argument being granted, let us now examine its practical application.

Let us suppose the physician gives a prescription for a particular patient, for a particular disease, for a particular purpose, and actually specifies that it shall *only* be used for this purpose, then the patient has *no right* to have it renewed. A renewal of it will, in our opinion, be equivalent to breaking his contract. Nevertheless, this thing occurs every day, in every city and town in the United States. But as long as the conditions under which the prescription has been furnished *are not plainly written* upon the recipe by the physician himself, the latter will have to blame only himself if the patient breaks his contract, and, moreover, courts generally will decide that the ownership of such prescriptions, upon which no specific restrictions are indicated, are the full property of the patient. The physician certainly cannot blame the pharmacist who has no means of knowing the restrictions laid upon the prescription by the physician.

On the other hand, a physician may write a prescription for a patient, which he expressly wants the latter to use for a certain time, or, whenever he is affected with a certain complaint, and which he, therefore, permits him to have renewed as often as may be required. This *permission* removes all restrictions so far as the permission goes. And if the permission is unlimited, the patient of course becomes the *permanent and unrestricted owner* of the prescription itself.

Having now considered the relation of the prescriber and of the patient to the prescription, let us also examine that of the dispenser. This question presents some difficulty. Yet in the outset it ought to be acknowledged that, as the ownership of a prescription lodges either in the physician or in the patient, as the case may be, it cannot at the same time lodge in the dispenser. The latter, in our opinion, can lay no legal claim to it, strictly speaking. On the other hand, after having filled the prescription, if he returns it back to the patient, he *loses every authentic proof of what the physician has prescribed.* It seems, therefore, to be the best policy to reverse the procedure, that is, *to retain the original, and to give a copy to the patient.* But this copy must be correct, and the writer of it can be held re-

[*Continued on page* 352.]

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Negative Bonds, and Rule for Balancing Equations.

PROF. HUGO SCHWANERT, in his new "Lehrbuch der Pharmaceutischen Chemie," gives a rule* for the construction of chemical equations. His method depends upon algebraical principles, as does also that of James Bottomley, read before the Manchester Philosophical Society, February 19th, 1877, and given in the *Chemical News*, vol. 27, p. 110.

My method is a chemical one, and is derived directly from principles of oxidation. It is founded upon a system of negative bonds. I here use the term bond in a sense partially new, which can better be understood by the illustrations that follow than by any definition which can be framed.

By the *bonds* of an element is meant the *amount of oxidation* it has sustained, or a *bond* is the *measuring unit of oxidation.*† The terms positive and negative are used *not* in an electrical but in a strictly numerical sense. The bonds of an element may always be ascertained with certainty by one of the following rules:

1. Free elements have no bonds, and may be represented by zero, written thus:—Cl° or Cl_2°, Ba°, Al°, etc.

2. Hydrogen in combination has always one bond, and it is positive, written thus, H^{I}.

3. Oxygen in combination has two bonds, always *minus*, written thus, O^{-II}.

4. The bonds of the metals in combination are usually *plus*. The most prominent exceptions are their combinations with hydrogen, $Sb^{-III}H_3^{+III}$, $As^{-III}H_3^{+III}$.

5. The sum of the bonds of any compound is always zero. Thus, $H^{I}N^{+V}O_3^{-VI}=0$; that is, the H has one positive bond, the N five positive bonds, and each atom of O has two negative bonds, and the three atoms have six negative bonds: six positive bonds added to six negative equals zero. In the same way,

$$H^{I}Cl^{+V}O^{-VI}=0,$$
$$H_2^{II}S^{+VI}O_4^{-VIII}=0,$$
$$H_3^{III}P^{+V}O_4^{-VIII}=0,$$
$$Ba^{II}O_2^{-IV}H_2^{+II}=0,$$
$$Fe_2^{VI}O_6^{-XII}H_6^{+VI}=0,$$
$$Ba^{II}H_4^{+IV}P_2^{+X}O_8^{-XVI}=0.$$

6. Acid radicals are always negative,

$$H^{I}I^{+V}O_3^{-VI}=0,$$
$$\text{or } H^{I}(IO_3)^{-I}=0.$$
$$Pb_2^{VI}P_2^{+X}O_8^{-XVI}=0,$$
$$\text{or } Pb_3^{VI}(PO_4)_2^{-VI}=0.$$

The bonds of the radicals being equal to the number of atoms of hydrogen with which it is capable of combining.

An *oxidizing agent* is one that can increase the number of bonds of some other substance; hence oxidation of one substance *must* involve the reduction of some other. The number of bonds gained by one are lost by the other. The real bonds are transferred from the oxidizing to the reducing agent. Thus in the equation—

$$2PbCrO_4 + 5Zn + 16HCl = 2Pb + Cr_2Cl_6 + 5ZnCl_2 + 8H_2O,$$

it can be proven that the ten bonds lost by the lead chromate are transferred to the zinc.

From these principles is derived a rule for writing equations, by which every equation involving oxidation may be balanced almost at a glance, if we know the products formed. The rule is:—*The number of bonds changed in one molecule of each shows how many molecules* of the other must be taken*, the words *each* and *other* referring respectively to *oxidizing* and *reducing* agents. A few equations will illustrate:

$$2HNO_3 + 3H_2SO_3 = 3H_2SO_4 + 2NO + H_2O.$$

The nitrogen in HNO_3 has five bonds, and in NO it has two, losing three; therefore three molecules of H_2SO_3 must be taken. The sulphur in H_2SO_3 has four bonds, and in H_2SO_4 it has six, gaining two; therefore two molecules of HNO_3 must be taken. Again:

$$3Sn^{*} + 4HNO_3 = 3SnO_2 + 4NO + 2H_2O.$$

The Sn gains four bonds (free elements having no bonds), hence four molecules of HNO_3 must be taken, and the N of HNO_3 losing three bonds, three of Sn must be taken.

$$6Sb + 10HNO_3 = 3Sb_2O_5 + 10NO + 5H_2O.$$

Here the rule calls for three of Sb and five of HNO_3; but since the product Sb_2O_5 cannot be written with an odd number of atoms of antimony, we must double the amount of each, and instead of three and five take six and ten.

$$3H_2S + 8HNO_3 = 3H_2SO_4 + 8NO + 4H_2O.$$

Here the sulphur in H_2S has -2 (*minus* two) bonds, and in H_2SO_4 it has $+6$; so it has gained eight bonds. Hence we must take eight molecules of HNO_3, and we take three of H_2S, because the nitrogen loses three bonds.

$$3Sb_2S_3 + 28HNO_3 = 3Sb_2O_5 + 9H_2SO_4 + 28NO + 5H_2O.$$

In this equation, both the sulphur and the antimony of Sb_2O_5 are oxidized, each atom of sulphur gains eight bonds (as explained above),

* This rule has been translated by us from the above work, and printed in our June number, page 179.—ED. N. R.

† As this definition of *bond* is a new and provisional one, possibly the adoption of a *new term* might be less objectionable than the use of new definitions for the established term, bond, as a character in quantivalence.

* In case of free elements, to avoid complexity, atoms are represented as molecules.

and the three atoms will gain twenty-four bonds. Each atom of the antimony gains two bonds, the two atoms gaining four bonds. These added to the twenty-four bonds gained by the sulphur make twenty-eight; that is, one molecule of Sb_2S_3 gains twenty-eight bonds. Hence we must take twenty-eight molecules of HNO_3, also three of Sb_2S_3, because the nitrogen of the HNO_3 loses three bonds.

$$HIO_3 + 3H_2SO_3 = 3H_2SO_4 + HI.$$

In this the rule calls for two HIO_3 and six of H_2SO_3; but we take one and three, which are in the same proportion. The rule gives proportional numbers only.

$$3Pb + 2 + 6HNO_3 = 3Pb(NO_3)_2 + NO + 4H_2O.$$

Here the rule requires two of HNO_3, and shows that exactly two are reduced to NO; but in order to make a solution of lead nitrate six more must be added, which are not reduced.

$$3NaH_2PO_2 + 7HNO_3 = 3NaNO_3 + 3H_3PO_4 + + 4NO + 2H_2O.$$

Here the phosphorus gains four bonds, and four of HNO_3 are reduced to NO; but three more are required to liberate the hypophosphorous acid from $3NaH_2PO_2$, hence we take seven in all.

$$AsH_3 + 6AgNO_3 + 3H_2O = 6Ag + H_3AsO_3 + + 6HNO_3.$$

The arsenic in AsH_3 has *minus* three (-3) bonds, and in H_3AsO_3 it has *plus* three $(+3)$; the gain is six, therefore take six of $AgNO_3$.

$$3KNO_3 + 8Al + 5KOH + 2H_2O = 3NH_3 + + 4K_2Al_2O_4.$$

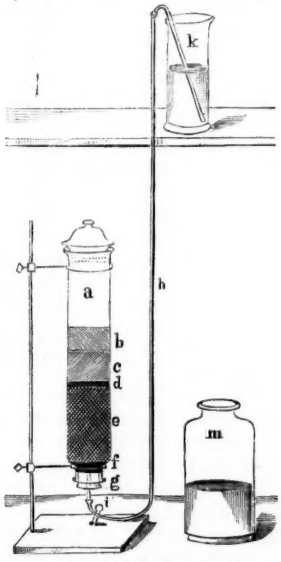
The nitrogen in NH_3 has -3 bonds, having lost eight; therefore take eight of Al; and as the Al gains three, take three molecules of KNO_3.

This article will be followed by another showing the use of the rule in organic chemistry.—Otis Coe Johnson, in *Chem. News.*

Upward Percolation.

Mr. William Elborne, in a paper entitled "The Recovery of Residual Tinctures from Marcs by Upward Displacement with Water," in pointing out the various processes heretofore proposed for the preparation of tinctures, draws attention to the objections which have been raised against the displacement of the residual tincture in the marc by pouring water upon it. He says: "It will be convenient to allude to these objections, as the result will show that they tend favorably in support of the process which I am about to bring forward: First, the specific gravity of water being higher than that of rectified or proof spirit, it naturally permeates down into the spirit which at the same time has a tendency to rise into the water, thus materially assisting the diffusion or mixing of the two liquids; secondly, vegetable tissues, possessing a greater affinity for water than for spirit, the latter is readily liberated from them and rendered free to rise in the water Having mentioned the disadvantages of this pro cess, I arrive at that which forms the leading feature of this paper, namely, upward displacement or the removal of the residual tincture retained in a marc by means of water (the heavier liquid) rising from below.

Working on this principle, the objections above mentioned are inapplicable, and the results are fairly satisfactory. One impediment, however, is the slight diffusion which takes place at the line of contact, but this may be partially remedied by using a modification of the menstruum. Of the group of tinctures prepared by maceration and percolation, the following proof spirit tinctures were made: Tr. aurantii, calumbæ, cinchonæ, cinnamomi, lupuli, rhei; and with rectified spirit: Tr. aconiti, and zingiberis



Elborne's apparatus for upward displacement.

(fortior). The quantity prepared of each was 1 pint, and in those made with proof spirit, spec. grav. 0.920, I used spirit having the spec. grav. 0.915, made by diluting the requisite quantity of rectified spirit with distilled water to 19 ounces, instead of 20, and adding $2\frac{1}{2}$ drachms extra of rectified spirit, thus allowing for the contraction of volumes, and for use of the mixture immediately. My mode of procedure is to powder the ingredients and macerate them with the whole of the spirit, spec. grav. 0.915, for the specified time with occasional agitation; the supernatant liquid is then drawn off, the dregs stirred up and transferred to a cylindrical percolator and allowed to drop until the liquid passes clear and bright; the receiver is then attached and both the turbid and supernatant liquids returned to the percolator. Instead of tying a piece of muslin over the bottom of the percolator,

as is usually done, a cork is inserted with a hole bored through the centre capable of admitting a piece of ordinary glass tube, above which is put an inch layer of coarsely pounded glass to prevent the orifice becoming chocked. Percolation being complete, another half-inch layer of glass is placed on the top of the marc to prevent the floating of solid particles. Having removed the receiver and supported the percolator on a retort stand, the open end of a piece of glass tube two inches long is inserted in the cork, the other end of the tube being previously drawn out in the flame so as to leave only a capillary opening. To this end is attached about a yard of India-rubber tubing communicating with a vesel placed above, containing distilled water, the pressure of a column of water being thus obtained. The India-rubber tube being filled with water and adjusted to the percolator, the wire clamp attached to the lower portion of the tube is removed, when a slow and steady flow of water commences; after the lapse of an hour and a half, sufficient displacement will have been effected, the water having risen considerably above the marc and with it will have been removed the retained tincture, which forms a dense stratum upon its surface. On dipping a glass rod into this upper stratum and applying it to a flame, the displaced tincture burns nearly as readily as the percolated portion, indicating its comparative strength of spirit. Nevertheless, diffusion will have taken place to a slight extent, and is perceptible by the gradual shading off of the highly colored tincture into the water beneath it. To finish off the tincture, its measure was brought up to 19½ ounces by the addition of the requisite quantity of surface liquid from the percolator, the product filtered, and made up to a pint with proof spirit. Thus having measured the product of percolation, I know exactly how much surface liquid to draw off to bring the measure up to 19½ ounces, which is done by means of a glass siphon, and having mixed the two products, filtered by the automatic method through a thin, 3-inch paper, and made up to a pint with proof spirit, I have produced a tincture prepared at a comparatively small loss.—*Pharm. Journal.*

Action of Living Yeast upon Iodide of Starch.

It is a remarkable property of living or active yeast to prevent the combination of iodine and starch to blue iodide of starch; and this property makes the detection of the adulteration of yeast by starch exceedingly difficult. On testing a sample of yeast containing 50 per cent of starch, by the addition of a large excess of aqueous solution of iodine, faint transient colorations are observed, which, however, rapidly disappear, and thereby might produce the impression that only minute traces of starch are present in the yeast. But even the presence of only 5 per cent of starch seriously interferes with the normal iodine reaction. If yeast were known to produce or separate an alkaline substance, the above phenomenon could be readily explained; but it continually separates (according to the author's investigations) an acid compound, as long as it has life. Exhausted or dead yeast does not in the slightest degree interfere with the iodide of starch reaction. In order to detect starch in yeast, the latter must be made inactive, which may be accomplished by boiling. The quickest way, however, to detect starch in yeast is by means of the microscope.—*Prof. J. Wiesner* in *Dingler's Pol. Journ.*, 237, 400.

Glycerin, its Specific Gravity and corresponding Percentage of Absolute Glycerin.

Dr. Wilhelm Lenz has subjected the specific gravities of glycerin, of various percentages, to a critical examination, in order to replace the discordant percentage tables of previous experimenters by one more reliable. For this purpose he chose an entirely new method, namely the quantitative determination of *carbon*, by ultimate analysis, in the various dilutions of glycerin.

From these data he has constructed a table of spec. gravities, from which we abstract the numbers ending in 5 and 0 only:

ANHYDROUS GLYCERIN %	SPEC. GRAV.	ANHYDROUS GLYCERIN %	SPEC. GRAV.
100	1.2691	50	1.1320
95	1.2581	45	1.1183
90	1.2425	40	1.1045
85	1.2292	35	1.0907
80	1.2152	30	1.0798
75	1.2016	25	1.0635
70	1.1889	20	1.0498
65	1.1733	15	1.0374
60	1.1582	10	1.0245
55	1.1455	5	1.0123

—From *Zeitsch. f. Anal. Chem.*, 1880, 297.

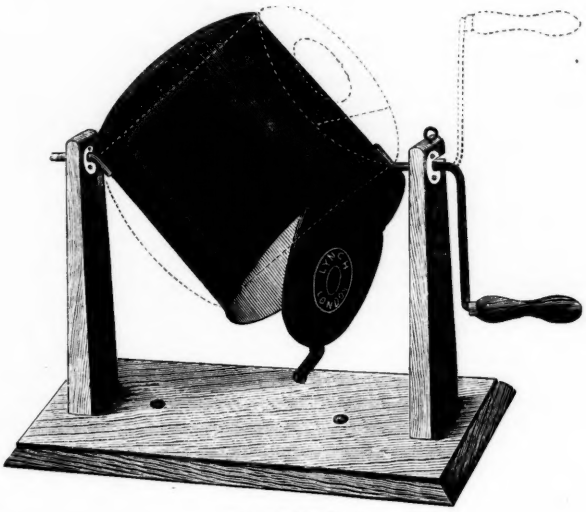
Ink for Labelling, etc.

A fine black ink, which flows easily from the pen, and may be used in laboratories, drug stores, etc., for labelling objects which are liable to get wet, or for producing writing which will resist as much as possible, acids and caustic liquids, may be made thus: 20 gm. of brown shellac are dissolved in a warm solution of 30 gm. of borax in 3–400 gm. of water, and filtered hot; to the filtrate is added a solution containing 7.5 to 10 gm. of water-soluble nigrosin, 0.3 gm. tannin, 0.1 picric acid, 15 gm. water of ammonia, and 7 gm. water.—Dr. Bering, in *Pharm. Centralh.*

Iceland Moss.—Mr. C. G. Warnford Lock, in a letter to the *Journal of the Society of Arts*, supplements the remarks published in May by the statement that he has been "credibly informed that Iceland moss certainly has been, and probably still is, exported in small quantities from Reykjavik. It seems likely, therefore, that the drug was first brought to our notice by the Icelandic traders of the Middle Ages, and thus acquired a name which has since lost much of its significance."—*Chem. and Drug.*

Akester's Pill-Coater.

THE accompanying cut illustrates a very simple form of pill-coater, known as "Akester's Pill-Coater," which is put on the market by Lynch & Co., 171 Aldersgate Street, London, E. C. It may be used for large or small quantities of pills. The latter must be hard, and with quantities of from 4 to 8 oz., the best results are obtained. The manufacturers supply, with the apparatus, printed instructions for various styles of coating.



Akester's Pill-Coater.

Note on the Essential Oil of Buchu Leaves.

A PAPER on this subject, by Prof. F. A. Flückiger, was read at the late British Pharmaceutical Conference, of which the following is an abstract:

The author had examined the crystalline substance separated from essential oil of buchu by the aid of caustic soda. He found that it belonged to the class of phenols, and in allusion to Diosma, the Linnæan name of the buchu genus, named it *dios-phenol*. Its formula is $C_{14}H_{22}O_3$.

The crystals of diosphenol melt at 83° (181.4° F.), and boil at 233° (451.4° F.) It is readily soluble in alcohol 0.83 sp. gr., less so in ether, but very sparingly so in water. The solution in boiling water, on cooling, affords small acicular crystals. The solutions are perfectly neutral, and on addition of an alcoholic solution of ferric chloride assume a dark coloration of dingy green. The crude oil, as well as the water distilled from buchu leaves, exhibit the same behavior. Diosphenol has a slightly aromatic odor and taste, *sui generis*, by no means reminding of buchu leaves.

The buchu oil, which had been exhausted with caustic lye, on further treatment distilled chiefly between 205° and 210° C.

This oil is remarkable from its odor, which agrees very nearly with that of peppermint. No other essential oil known to the author possesses this aroma except peppermint. The oil under examination is devoid of rotatory power, and consists of one of the numerous modifications of the molecule $C_{10}H_{18}O$, the presence of which is more and more ascertained among the constituents, both solid and liquid, of essential oils.—*Chemist and Drugg.*

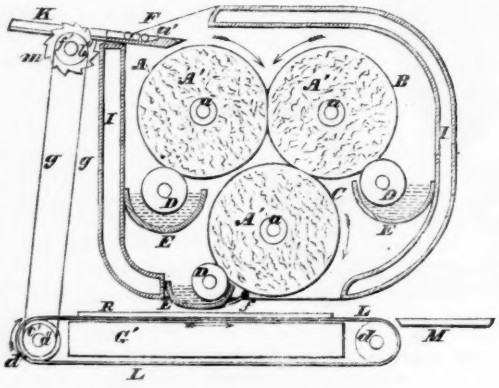
Preparation of an Aqueous Varnish and Starch-Gloss.

DR. JOSEF MARIA EDER, some time ago, gave the following composition of a varnish, which was intended to be applied to sized or unsized paper, photographic prints, maps, etc., in order to give them a *glossy* surface without striking through:

300 parts of water are boiled for 15 to 30 minutes with 3 to 5 parts of cut marshmallow root. The liquid is then poured off, and, after the addition of 24 parts of borax, 4 parts of "anhydrous" soda, and 100 parts powdered bleached shellac, the whole is heated again. After a short time the shellac dissolves to a muddy yellowish liquid, which, after cooling, is filtered through cotton.

Dr. Geissler, one of the editors of the *Pharm. Centralh.*, makes the following remarks: "Althæa root, which a pharmacist would probably *not* boil, is entirely superfluous in this varnish, and so is also the soda. I have, myself, made experiments to prepare such a varnish, and have found that it is most simply and rapidly prepared by shaking a saturated solution of borax with powdered shellac, *without* heat. One part of shellac is soluble in 2 parts of a saturated

solution of borax, after frequent shaking during 2 or 3 days. In 3 parts, however, it is easily soluble. The *bleached shellac* must be preserved *under water*, and must be dissolved *immediately after being* powdered; for, if it is allowed to be exposed to the air, in a powdered condition, for several days, it will either not dissolve at all, or only with great difficulty. If a higher temperature than 50 or 60° C. is used in preparing the varnish, it is apt to assume a faint reddish color, the cause of which I have vainly tried to ascertain. The finished varnish, however, bears heat very well. Now this varnish may not only be used for rendering pictures, maps, prints, etc., *glossy*, but it is *a most excellent starch-gloss*, and its preparation would therefore be also remunerative for many pharmacists. In fact this varnish is much more appropriate and serviceable for this purpose than all other known commercial 'starch-glosses.'"



Apparatus for Coating Pills.

JAMES A. WHITNEY, of New York, has recently patented* an apparatus for coating pills and similar articles which has the following-named features: the bodies to be coated are passed between a series of rollers made of sponge, felt, or similar absorbent and elastic substance, the surfaces of which are kept moistened by other rollers which dip into troughs holding the fluid coating. In order that the coating may kept at a proper fluidity, the apparatus is surrounded with a jacket for hot water or steam, and the pills, when sufficently coated, are allowed to fall upon a receiving plate which is moved along by a continuous band and which, to prevent the pillular masses from adhering to it, is kept at a low temperature by a refrigerating box beneath.

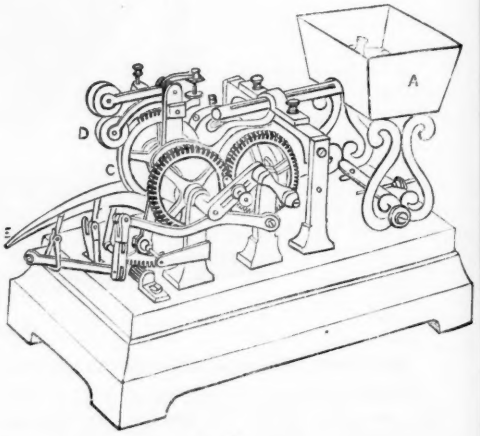
Cure of Malodorous Foot-sweat.

DR. ORTEGA relates the case of a strong and vigorous man, working in the factory of Saint-Gobain, who was afflicted with such an offensive foot-sweat that the other workmen refused to work near him, and that he was a universal object of repulsion. As soon as he entered a room, the windows had immediately to be opened. He had consulted several physicians without finding amelioration. The skin of the soles of the feet was quite white, as if it had been macerated. At the edges and also around the nails it contained small ulcers. The odor arising therefrom was so overpowering that the examination had to be interrupted. The room retained the odor for some time, in spite of ventilation. Dr. Ortéga advised him to try the following:

Chloral hydrate	1 part
Water	100 parts

and to envelop the feet into towels saturated with the solution.

Two days afterwards the man returned rejoicing, that the bad odor had left his feet: and this was found to be the case after he had been ordered to take off his shoes.



The same treatment was continued for 6 days, and gradually caused the ulcers to discharge less and finally to heal.—*La Ruche Pharm.*, 1880, 90.

French Pill-Printing Machine.

AT the late exhibition of pharmaceutical apparatus in London, a very neat little pill-printing machine was exhibited by the inventor, Mr. Vial, of Paris. The pills, previously coated, are put in the hopper, *A*, and from there pass, one by one, along a small groove to *B*, where they drop through a cylinder to another groove. At a certain point in their passage they are brought in contact with a wheel *C*, turned by the operator. On the outer rim of the wheel the type is fixed, being inked from little rubber cylinders, *D*, as it revolves, and the pill meets the wheel just as the type approaches. It receives the impression in beautifully clear characters, and is henceforth unmistakable as to its properties, no matter whether it be accidentally mixed up with other pills or not.

* Pat. 229,785, July 6th, 1880.

The Alkaloids of Jaborandi Leaves.

(Abstract of a paper by DR. ERICH HARNACK and DR. HANS MEYER, of Strassburg.*)

THE alkaloid of jaborandi, *pilocarpine*, has been investigated particularly by Kingzett,† upon the basis of the preceding labors of Gerrard,‡ Hardy,§ Drasche,‖ and others. Kingzett ascribed to the free alkaloid the formula $C_{23}H_{34}N_4O_4+4H_2O$, although these figures do not agree very closely with his results. He also obtained, after the crystallization of this alkaloid, a small quantity of a sticky substance which refused to crystallize, and which was not further examined. By the dry distillation of chloroplatinate of pilocarpine with excess of alkali, Kingzett obtained a volatile product which he considered identical with trimethylamine.

On the other hand, Poehl¶ has lately stated that he obtained, under these circumstances, a basic body which cannot be distinguished from coniine.

From the so-called false jaborandi, derived probably from a species of *Piper* (*Piper Jaborandi* Vollosa?), Parodi obtained an alkaloid, easily soluble in amylic alcohol and benzin, but difficultly soluble in ether and dilute acids (?), which he called *jaborandine*, and for which he gave the formula $C_{10}H_{12}N_2O_3$.

Several investigators, f. i. Gerrard, Hardy, etc., have surmised that there may be *two* alkaloids in jaborandi. Hardy particularly speaks of two alkaloids, but no decisive results were obtained.

A theoretical reason for the assumption of the existence of two different alkaloids in jaborandi has also been the discrepancy in reports regarding the therapeutical action of jaborandi leaves.

The investigations of the authors of the present paper, so far as they regard the therapeutic action of jaborandi and its alkaloids, are given at length in the *Archiv f. exp. Pathol. u. Pharmakol.*, 12. The principal result has been, that *pilocarpine* was found, in most respects, to be entirely analogous to *nicotine* in its effects.

In the present paper the authors give the results of the chemical investigations which may be briefly stated to be the following:

Jaborandi contains, besides *pilocarpine*, a second alkaloid *which is easily produced from the former* and is present in many commercial samples of pilocarpine. It is essentially different from true *pilocarpine*, and corresponds in action entirely with *atropine*. This new alkaloid the authors propose to name *jaborine*.

1. *Preparation of pure Pilocarpine.* Commercial salts of pilocarpine and preparations obtained by precipitating the crude alkaloid with phosphotungstic acid contain almost always small quantities of jaborine, the complete separation of which latter is, by no means, easy. Free jaborine is more readily soluble in ether, but less soluble in water, than pilocarpine; the chloroplatinate of the former is more easily soluble in alcohol than that of the latter; besides, the jaborine salts are not crystallizable.

The authors tried to effect the *separation* of the two alkaloids in the following manner. The alcoholic solution of the impure salt of pilocarpine was precipitated with platinic chloride, the precipitate was thoroughly washed with alcohol, dried, and dissolved in boiling water. That portion of the platinum salt which first separated in the cold, in form of thin crystalline laminæ, was dissolved in water and decomposed by hydrosulphuric acid. The filtrate was concentrated, supersaturated with soda, and in single portions energetically shaken out with repeated quantities of ether. Pilocarpine being with difficulty soluble in this menstruum, mostly remains in the aqueous solution, which contains then no more jaborine. By precipitating the acidulated solution with phosphotungstic acid, and decomposing the precipitate with barium hydrate, absolutely pure pilocarpine is obtained—but a considerable loss of substance is incurred.

The authors have subsequently received from Mr. E. Merck, of Darmstadt, who had placed the material for these investigations at the disposal of the authors, samples of a pilocarpine—now sold as *pilocarpinum purum*—which was free from jaborine.

The best test for the presence of jaborine in any preparation of pilocarpine is the physiological trial upon the frog's heart, as jaborine is capable, like atropine, to paralyze the cardiac plexus of the pneumogastrics.

The analytical examination of pilocarpine was mostly performed with the aid of the gold and platinum salts. The latter was prepared as stated above; from its solution in boiling water it crystallizes, by rapid cooling, in magnificently iridescent, thin, yellow laminæ; on slow cooling, however, in semicircular, warty, crystalline groups. It dries easily at 100° C., and contains no water of crystallization.

As the hydrogen determinations, in the course of the ultimate analysis of the salt, gave somewhat higher figures than theory required, the authors also analyzed the gold-salt, which was prepared from pure hydrochlorate of pilocarpine. In the course of this analysis they made an observation, which, so far, had not been recorded of gold double salts. Namely, if an aqueous solution of hydrochlorate of pilocarpine is precipitated with chloride of gold, a precipitate is obtained which, under water, assumes a handsome crystalline shape. This has the composition: $C_{11}H_{16}N_2O_2$, $HCl+AuCl_3$. On now dissolving this salt in alcohol and boiling for some time, it separates again, on cooling, in nice crystals;

* In *Liebig's Annal. d. Chem.*, 204, 67.

† Kingzett: *Pharm. Journ. and Trans.*, [3] 8, 255. *Journ. Chem. Soc.*, Oct., 1876.

‡ Gerrard: *Pharm. Journ. and Trans.*, [3] 5, 825; 865, 6, 227; 965; 7, 255.

§ Hardy: *Pharm. Journ. and Trans.*, [3] 5, 781; 6, 24.

‖ Drasche: *Zeitsch. d. Allg. Oester. Ap. Ver.*, 13, 283.

¶ Poehl: *Ber. d. Deutsch. Chem. Ges.*, 12, 2185.

but the composition now is: $C_{11}H_{16}N_2O_2 + AuCl_3$. That is, by boiling with alcohol, the hydrochloric acid is separated from the double salt, and a new compound is formed, in which the chloride of gold may be regarded as acting the part of an acid, analogous to those compounds which mercuric chloride forms with bases.

Upon the basis of their several analytical data, the authors arrive at the formula $C_{11}H_{16}N_2O_2$, for pure pilocarpine.

Owing to the great similarity in action between pilocarpine and nicotine, the authors attempted to find a method of converting one into the other. Their close relationship appears to be proved also by the fact that jaborandi leaves yield, under certain conditions, basic substances which may be regarded as products of the decomposition of pilocarpine, and which are likewise obtained on decomposing nicotine—namely pyridine-bases. Such bases could be actually isolated from preparations of crude pilocarpine, obtained from E. Merck, which consisted of concentrated mother-liquors and which possessed an intense odor of oil of tobacco.

By the dry distillation of pure pilocarpine with excess of alkali, the authors obtained trimethylamine, thus confirming Kingzett's statement.

On the other hand, by distilling the "crude pilocarpine" with excess of potassa, a small quantity of a volatile base distils over, at 160° C., which seems to be identical with coniine. This accounts for the statement of Poehl. If "crude pilocarpine" is distilled by itself, no such body is produced, but merely the pyridine-bases pass over.

2. *Investigation of Jaborine.* The existence of a second alkaloid in the commercial pilocarpines having been ascertained, the authors attempted its separation from the crude material placed at their disposal by Mr. Merck. This material consisted of concentrated mother-liquors—derived partly from jaborandi leaves, and partly from the so-called false jaborandi (*Piper reticulatum*, and other species)—all of which were left behind after the crystallization of pilocarpine, and which appeared in form of a thick red-brown syrup, having the odor of oil of tobacco and a strongly alkaline reaction. The presence of pilocarpine, pyridine, and other impurities interfered with the separation of the pure base, and the further circumstance that the salts of the latter do not crystallize, prevented the authors from obtaining the base in a state of sufficient purity to determine its ultimate composition. Nevertheless, it was prepared sufficiently pure to prove that its effects are completely identical in the animal organism with those of atropine.

The two best methods so far discovered by the authors for obtaining the new base are the following:

1. The alcoholic solution of the crude mother-liquor, acidulated with hydrochloric acid, was precipitated, in fractions, with platinic chloride. (The chloroplatinate of jaborine is more soluble than that of pilocarpine.) The first portion of the precipitate, which soon coalesces to smeary, rapidly hardening, and (in water) insoluble masses, is rejected, the decanted liquid further precipitated, filtered, and the filtrate now completely precipitated. After again filtering, the alcoholic filtrate generally deposits, on standing, another small quantity of the jaborine salt. The latter and the last precipitation are then extracted with boiling water, and the filtrate concentrated in vacuo over sulphuric acid. Chloroplatinate of jaborine then separates either as a fine bright-yellow powder, or as a dark-red amorphous lumpy mass. Protracted washing with alcohol abstract from this deposit a little coloring matter; but the whole of it cannot be so removed. By decomposing the platinum salt, both the free base as well as ordinary salts were obtained, but always in yellowish amorphous masses.

2. The crude substance was dissolved in water with the aid of hydrochloric acid, filtered, and the filtrate treated with solution of mercuric chloride, until the first milky cloudiness began to increase to a precipitate. By protracted agitation and subsequent filtration, a bright-yellow liquid was obtained, which, after removal of the mercury by sulphydric acid, was concentrated, mixed with caustic soda, and then shaken out with ether. The ethereal solution, on evaporation, leaves behind the jaborine as a colorless amorphous mass.

The composition of jaborine, so far as the authors are justified to conclude, must be closely approaching that of pilocarpine. But the most interesting fact is this, that *jaborine is easily formed from pilocarpine.* Even the mere concentration of acid solutions of pilocarpine is sufficient to cause the formation of small quantities of jaborine, which may be recognized by its physiological effects. The same happens when pilocarpine is heated with hydrochloric acid in sealed tubes. Still larger quantities are obtained by simply heating pilocarpine itself.

Langley* already observed that the application of *extract of jaborandi* produced irritation of the terminations of the pneumogastric nerve in the frog's heart; and that an application of *pilocarpine* produced their paralysis, just like atropine. At that time this observation appeared to be a paradox; but now the explanation is easy, namely, the extract of jaborandi must have been free from jaborine, and therefore produced the pure *pilocarpine* (nicotine) effect; during the process of preparing the alkaloid, however, some jaborine was formed, and contaminated the sample of pilocarpine he used. If both pilocarpine and jaborine are applied to the frog's heart at one and the same time, only the effects of the latter become evident, which con-

* *Medicinisches Centralblatt*, 1877, 124.

sist in a paralysis of the cardiac plexus of the pneumogastrics.

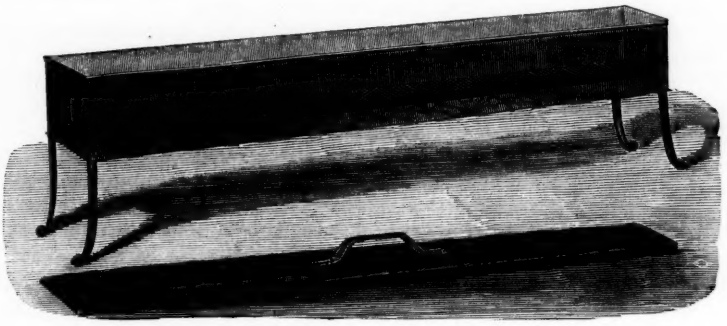
The same observations have been made by the authors. They found that the commercial *Fluid Extract of Jaborandi* is free from jaborine; but, on evaporating the alcoholic and acidulated solution of an extract, as for instance when attempting to separate pilocarpine, a notable quantity of jaborine will be formed.

The authors finally add that, while the presence of jaborine in the fluid extract, etc., cannot be with certainty detected by physiological experiments, the possibility is not excluded that small quantities of jaborine are contained, ready formed, in the leaves of jaborandi itself.—*Liebig's Annal. d. Chem.*, 204, 67.

On the Manufacture of Soap in small Quantities without Boiling.

MR. W. J. MENZIES, in the course of a paper on the above subject, printed in the *Chemist and Druggist* of Aug. 4th, gives the following practical recipe:

Take exactly 10 lbs. of double-refined 98 per cent caustic-soda powder (Greenbank), put it in any can or jar with 45 lbs. (4½ gallons) of water, stir it once or twice, when it will dissolve immediately and become quite hot; let it stand until the lye thus made is cold. Weigh out and place in any convenient vessel for mixing, exactly 75 lbs. of clean grease, tallow, or oil (*not* mineral oil). If grease or tallow be used, melt it slowly over the fire until it is liquid and *just warm*—say, temperature not over 100° F. If oil be used, no heating is required. Pour the lye slowly into the melted grease or oil in a small stream continuously, at the same time stirring with a flat wooden stirrer about three inches broad; continue gently stirring until the lye and grease are thoroughly combined and in appearance like honey. Do not stir too long, or the mixture will separate itself again. The time required varies somewhat with the weather and the kind of tallow, grease, or oil used; from 15 to 20 minutes will be enough. When the mixing is completed, pour off the liquid soap into any old square box for a mould sufficiently large to hold it, previously dampening the sides with water so as to prevent the soap sticking. Wrap up the box well with old blankets, or, better still, put it in a warm place until the next day, when the box will contain a block of 130 lbs. of soap, which can afterwards be cut up with a wire. Remember the chief points in the above directions, which must be exactly followed. The lye must be allowed to *cool*. If melted tallow or grease be used, it must not be more than *warm*. The *exact* weights of double-refined 98 per cent powdered caustic soda and tallow or oil must be taken; also the lye must be stirred into the grease, *not* grease or oil added to the lye. If the grease or tallow used be not clean or *contains salt* it must be "rendered," or



Apparatus for Coating Laboratory-Tools.

Apparatus for Coating Laboratory-Tools.

METALLIC tools and other articles, particularly those consisting of iron or steel, which are used in laboratories or other work-shops where acid vapors are of frequent occurrence, may be protected from rust with a black shining coat, which resists acids and is but little affected even by a low red heat, in the following manner. Have a sheet-iron box (see Fig.) constructed, large enough to hold all the tools, etc., to be coated, and provided with a false bottom of wire-netting. Underneath this is placed a layer of crushed coal (blacksmith's coal), about 1 centimetre deep; then place the tools, which must be entirely free from rust, clean and polished, upon the wire-net. The box is then covered and set on a strong fire, which causes the coal to give off tarry constituents, and the heat continued until the bottom of the box is at a red heat. When all evolution of gas has ceased, the box is allowed to become cold and the tools are taken out and will be found covered with a beautiful glossy coat. Tongs, shear, pincers, etc., so coated, keep in good condition for many months, even in places where the air is constantly mixed with acid vapors.*

* From: *Technik der experimental. Chemie*, by Dr Rud. Arendt, 8vo, Leipzig, 1880, Vol. 1, 126. This work, which is very useful and interesting, is in now course of publication.

purified, previous to use, that is to say, boiled with water, and allowed to become hard again to throw out the impurities. Any salt present will spoil the whole operation entirely, but discolored or rancid grease or tallow is just as good as fresh for soap-making purposes.

If the soap turn out streaky and uneven it has not been thoroughly mixed. If very sharp to the taste, too much soda has been taken. If soft, mild, and greasy, too little soda has been used. In either case it must now be thrown into a pan, and brought to a boil with a little more water. In the first case boiling is all that is necessary; in the other instances a very little oil or a very little more of the double-refined powdered caustic soda must be added to the water. These things will never happen, however, if the directions are exactly followed, and after the soap has been made several times with the experience thus gained, the process is extremely easy, and the result will be always a good batch of soap. Beef tallow makes the hardest soap, mutton fat a rather softer soap; of oils, cotton seed is the cheapest and best, but the soap is much softer, lathering very freely indeed. Ordinary household fat or dripping will make a nice soap, and in many places can be obtained at a very trifling cost, and in exchange for goods sold. Such grease, however, must be carefully examined for *salt*, which it often contains. It will be evident that any smaller quantity of soap can be made at a time, according to the above directions, by taking the ingredients is exact proportion. It is not advisable to make more than double the quantity prescribed, as it is difficult to work more by hand. By making successive batches, however, a single person can make 2 tons of soap in a day simply with apparatus (pans, etc.) obtainable in any household.

By adding a few drops of essential oil just when the mixing is completed a toilet soap is produced. Oil of mirbane (artificial almond oil) is the cheapest, but the perfume is not nearly so pleasant as real almond oil, citronella, or oil of cloves. If made with clean grease or tallow or light-colored oil, the soap produced is quite white.

Sometimes a little coloring matter will make the soap *sell* better, although of no better quality. Half an ounce of bichromate of potash dissolved in the *lye* will give a green; 1 lb. of palm oil melted with the tallow or oil, a yellow color; or a good brown can be got by burning ½ lb. of sugar in a saucepan until black, then dissolving it in a pint of water, and adding it to the melted tallow before mixing.

A *very cheap* and good jelly soft soap can be made with the above soap. Take 5 lbs. of the hard soap, crush it down or cut it up into as small pieces as possible: put this into a pan or boiler with 10 gallons of water if a strong hard tallow soap; if an oil soap only half the quantity of water (5 gallons); just bring it to a boil, and stir well, to thoroughly dissolve all the pieces of hard soap; pour or ladle it into any can, tub, or barrel that is tight, and leave it to cool for two or three days. This will give about 80 lbs. of jelly soft soap at an exceedingly small cost. Of course, if made from colored and scented hard soap it will be a colored and scented jelly soap. This is a good way of working up the scraps and bits of soap after cutting up. It can be sold with a good profit at a very low figure, and often as a substitute for regular soft soap. It is a *very different* article, however, to a *real* potash soft soap, which should invariably be used for washing woollens. It is possible to produce this real potash soft soap in the cold by a somewhat similar process to the above.

On a New and Characteristic Reaction of Atropine and Daturine.

Dr. Dioscoride Vitali, Chief Pharmacist of the Hospital in Piacenza, has recently published a paper* containing the results of chemical and toxicological studies of atropine and daturine, from which we select the main portion, namely, a summary of the results obtained, and an account of the new process of detecting these bodies.

The author finds, 1. That atropine possesses certain color-reactions, among them particularly that which is produced by the action of nitric acid and of caustic potassa; 2. That this reaction is exceedingly delicate and presents all the conditions necessary for justifying its adoption in toxicological examinations. 3. The product of the action of nitric acid upon atropine is an alkaloidal base entirely different, both chemically and physiologically, from the original atropine. 4. This oxidation product remains unaltered in the organism and is promptly voided by the urine, in which it may be discovered with the greatest facility. 5. Tropic acid likewise shows a handsome reaction, by means of which its presence may be discovered, and which may be used when testing for atropine in those cases in which the latter has undergone decomposition. 6. All color-reactions of atropine are likewise applicable to daturine, including even the decomposition into tropine and tropic acid, which, united together—not less than the identity of the general reactions and physiological effects obtained under identical conditions—help to confirm the opinion of Planta and Dragendorff, that these two alkaloids, instead of being two different substances, are really identical.† 7. From the comparative

**Bolletino Farmaceutico*, Milano, 1880; also printed separately under the title: *Studio tossicologico sull' Atropina e sulla Daturina del Dottore Dioscoride Vitali, Capo Chimico Farmacista all' Ospedale di Piacenza*, 8vo, Milano, 1880, pp. 31.

† As the author, throughout the paper, fails to mention the name of Prof. Ladenburg, we must conclude that the important discoveries of the latter have remained unknown to him. It is true that v. Planta regarded the above alkaloids, according to his experiments, as identical. But,

study of the reactions of atropine and of "nitro-atropine" with those of the other alkaloids, it follows that some of these, as strychnine, papaverine, sabadilline, cumarine, cubebine, solanidine, morphine and apomorphine, present some new color reactions which serve to characterize them more closely.

The product of the metamorphosis of atropine, with which the above-mentioned color reaction is connected, is developed by a process of oxidation, namely by means of concentrated and hot nitric acid. After the nitric solution has been evaporated to dryness, the residue, on the addition of a concentrated solution of potassa, assumes a magnificent violet color, passing to a wine-red. The potassa liberates or sets free from the residue an insoluble substance which is at first white, but afterwards turns violet on coming in contact with an excess of alkali. In spite of the insolubility of the substance, the violet tint is sufficiently perceptible, though not brilliant; but if a little alcohol is added, it manifests itself in great beauty, because this menstruum dissolves the substance with ease. And for the purpose of rendering the reaction more prompt and certain, a recently prepared *alcoholic* solution of potassa is used, instead of an aqueous one.

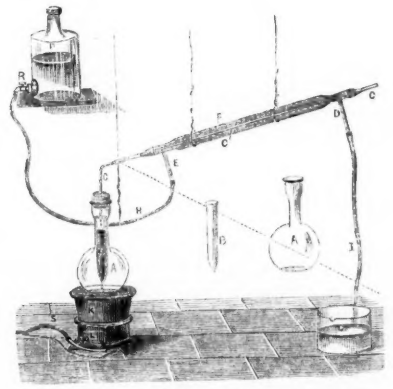
The conditions under which the reaction may be obtained most favorably are the following. Either a solid alkaloid, suspected of being atropine, is to be examined, or a solution containing it. In the first case, it is only necessary to add to it directly, in a porcelain capsule, about 10 times its volume of concentrated nitric acid, to heat the liquid for a few minutes to boiling, then to continue the heat at a low temperature until all free nitric acid has evaporated. When the capsule has become cold, a few drops of a recently prepared alcoholic solution of potassa are dropped into it, allowing them to run down the inner side of the capsule. As soon as the alkaline solution touches the residue, the violet color makes its appearance, passing in a very short time to wine-red and muddy red.

In the second case, when a solution is to be tested, the liquid is to be evaporated to dryness at a gentle heat, and the residue is treated with nitric acid, and so on, as in the previous case. If the nitric acid contains nitrous products, this circumstance, instead of hindering the appearance of the reaction, rather increases its brilliancy.

This reaction is extremely sensitive and is characteristic exclusively of *atropine* (and daturine). It may be obtained with certainty and ease even from the alkaloid extracted, in the usual manner, from organic mixtures.

Though the reaction is not very fugitive, still it does not last long. Nevertheless it presents the great advantage of being reproduced many times from the same quantity of material, no matter how small this be. Besides, it is produced not only from the free alkaloid, but also from its salts. The sensitiveness of the reaction is such that it may be observed with a few drops of a solution of sulphate of atropine, containing as little as 0.000001 gm. ($\frac{1}{640000}$ grain) of the salt.

Though the reaction is exclusively characteristic of *atropine*, the author nevertheless adds that it also occurs with *daturine*. Hence he concludes that the views of Planta, Rabuteau, and Dragendorff, who regard the two alkaloids as identical, are correct.



Another Form of Extraction Apparatus.

THE accompanying apparatus does not vary in principle from most of those previously described, but merely in the shape of the extracting vessel, and its combination with the receiver. The extracting vessel has the shape of a test-tube, being drawn out to an opening at the bottom (see *B*). The receiver *A* is a flask with widened neck, in which the lip of the extracting vessel is intended to rest. The apparatus, which is sufficiently intelligible without further description, is constructed by Guichard, as a modification of that proposed by Damoiseau, and is described by the author in the course of a paper, "On the analysis of Cinchona Barks," published in *Répert. de Pharm.*, 1880, 98.

in 1877, Poehl (*Petersb. Med. Wochenschr.*, No. 20) found that they differed chemically and physically (see NEW REM., 1879, 21). It is, however, quite possible that Poehl did not have perfectly pure alkaloids at his disposal. Prof. Ladenburg has been engaged for several years with the study of the solanaceous alkaloids, and his results so far obtained appear to prove conclusively that there are only *two* mydriatic alkaloids in this family, namely *Atropine* and *Hyoscyamine*, which are isomeric in composition and otherwise *very closely related*, though not entirely identical (see NEW REM., 1880, 139). But Ladenburg has at the same time shown that hyoscyamine is identical with *daturine* and *duboisine*; hence, according to this chemist, daturine cannot be pronounced to be entirely identical with atropine. According to the results obtained by Prof. Ladenburg and Dr. Vitali, duboisine, as well as hyoscyamine, ought to give the new color reaction equally well as daturine or atropine. Dr. Vitali tried the reaction with 64 different alkaloids, among which, however, we fail to find either hyoscyamine or duboisine. We shall examine this question at the first opportunity and report thereon.—ED. N. R.

The Manufacture of Aluminium, Sodium, and similar Metals.

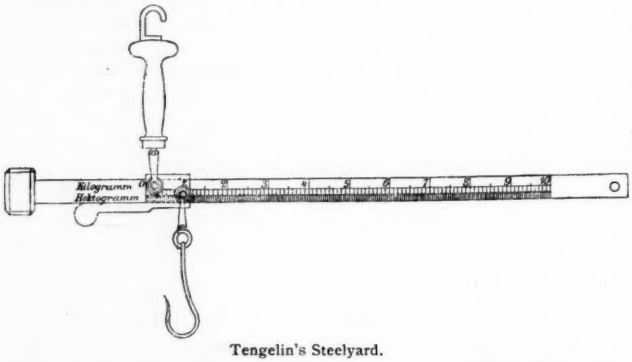
A PATENT has been obtained by Mr. W. P. Thompson, of Tranmere, for a novel process of manufacture of aluminium, sodium, and similar metals, which, if successful, would very greatly reduce the present high price of these metals. Liquid iron, either alone or in conjunction with hydrogen or carbon, is to be the reducing agent, and the operation is to be conducted in an apparatus similar to the well-known Bessemer converter. This apparatus is made up of two parts. After the iron has been fused in one, it is transferred into the second by turning the converter. Through a tube opening into this second chamber, hydrogen or carburetted hydrogen is allowed to enter, and through another one, chloride or fluoride of aluminium in a state of fusion or as gas. Hydrogen and ferric chloride escape, and in the converter remains iron alloyed with aluminium and carbon. This mixture is then again transferred to No. 1 chamber, where the carbon is to be burnt by a current of air. After transferring to No. 2, the process of reduction is to be continued until the iron is almost wholly consumed, when hydrogen alone is to be used as reducing agent. Thus an iron-aluminium alloy results.

For the preparation of sodium, hydrogen is not requisite. Iron mixed with much carbon is to be heated with caustic soda in the converter, and the sodium, said to be formed under the circumstances, is simply distilled off. When all carbon is consumed, the iron may be worked into Bessemer steel, or may be again recarbonized.

Iron and potassium not forming an alloy, the method is not well applicable for the preparation of potassium. For the manufacture of pure aluminium, sodium is to be preferred in the manner described, and then in the chamber containing the metal, chloride or fluoride of aluminium is to be allowed to enter, air being excluded. The chamber is provided with stirring gear, and is lined with alumina, or a mixture of lime, magnesia, and alumina. The inventor will also apply his process to the preparation of magnesium, calcium, strontium, and barium.—*Scient. Amer.*

A Steelyard without Weights.

AN improvement of the common steelyard, devised by D. J. Tengelin, of Stockholm (German Pat. No. 7988, class 42), dispenses with the movable weight by making the beam itself serve the purpose. As shown in the cut, the latter may be caused to slide to or fro in a case to which the bearings are attached, being provided on one end with a permanent weight, and with the usual divisions of the metric weight. The scale is balanced when the zero mark just appears in front of the fixed case. After appending the substance to be weighed to the hook, the beam is drawn through the case towards the side provided with the weight, until equilibrium is restored, and the division of the scale which is just in front of the case, represents the weight of the substance.—*Dingler's Polyt. J.*, 236, 214.



Tengelin's Steelyard.

Grooved Filters.

DR. E. GEISSLER describes, in the *Pharm. Centralhalle* (1880, No. 27) an easy method for converting ordinary smooth funnels into grooved ones.

The funnel to be grooved is dipped into melted paraffin, wax, or tallow, so as to be completely coated by it; the design of the intended grooves is then scratched into the coating, in the interior of the funnel, by means of some pointed instrument. The lower orifice is closed with a rubber or ordinary waxed cork, and aqueous hydrofluoric acid is poured into the funnel, allowed to remain for ¼ or ½ hour, then poured off and the interior of the funnel washed. If the grooves are not deep enough, the operation may be repeated. The acid may be used several times, before it is exhausted. In case the amount of hydrofluoric acid on hand is insufficient, the object may be accomplished either by repeatedly moistening the groove-lines with the acid, by means of a rubber-pencil dipped into

it, or, in the case of small funnels, the etching may be accomplished by exposing the funnels to the fumes of hydrofluoric acid produced by heating fluor-spar and sulphuric acid in a lead tray.

Agitation of Liquids to promote the Formation of Precipitates in Analysis.

FOR this purpose an india-rubber cover is constructed, fitting air-tight to the working beaker and having two tubulures, through one of which a glass tube is passed to the bottom, thereby covering its lower end with the liquid, and its upper end is open to the air. The other tubulure is connected with an aspirator of some kind (a Bunsen's water pump may be used with advantage), which, being put in motion, draws a stream of air bubbles through the liquid, thereby keeping it in a constant state of agitation. By means of this apparatus the precipitation of phosphoric acid, as ammonio-phosphate of magnesium, is complete after half an hour's agitation.—H. B. YARDLEY, in *Chem. News*, July 2d.

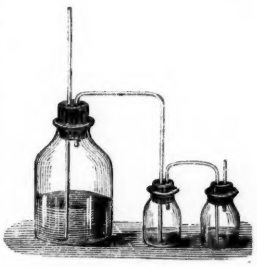
Koumys—its Qualities and Digestibility.

THE *Mineral Water Trade Review and Guardian*, of June 19th, makes the following remarks on Koumys, giving at the same time some new formulas for its preparation: Koumys has received considerable attention at the hands of scientists both at home and abroad. Mr. Power, Medical Officer of H. M. Prison, Portsmouth, has made a series of experiments in the fermentation of milk which appear to us well worthy of attention, since they may have for effect the placing of this valuable product within the reach of everybody. After trying the action of various ferments with little success, it occurred to him that milk contains in itself the elements of fermentation (caseine and sugar of milk), and that exclusion of the atmosphere and retention of the carbonic acid produced, at a suitable temperature, would fulfil all requirements and yield excellent koumys. Mr. Power's experiments have, he tells us, proved the correctness of this supposition. Milk fresh from the cow is put into clean soda-water bottles, filled nearly to the top, tightly corked, and the cork secured with cord or wire. It is kept at a temperature of about 70° F., and shaken every day for ten to eighteen days. It is fit to drink in ten days. By keeping it beyond eighteen days the quantity of carbonic acid becomes so considerable that a siphon tap must be used to decant it, otherwise the whole contents of the bottle would escape when it is uncorked. It can be prepared also with milk from which the cream has been removed after standing for twelve hours. In this preparation it is, of course, necessary to take precautions against the explosion of the bottles; endeavors should be made also to secure a tolerably uniform temperature of about 70° F., and some discretion must be used as to the length of time the milk is allowed to ferment. Another formula which has lately been published, is as follows: One hundred parts of condensed milk are mixed with one thousand parts of water, one part of lactic acid, one-half part of citric acid, and fifteen parts of good Jamaica rum or French brandy are added; charge with carbonic acid gas, bottle, and let stand some days in a warm room till the liquid begins to froth.

The editor of the paper mentioned at the head of this article thinks that this drink would not be altogether free from excise regulation, and prefers other formulas.

Testing Hydrochloric Acid for Arsenious and Sulphurous Acids.

MR. G. A. ZIEGELER recommends for this purpose the following expeditious method: Having constructed an apparatus like that shown in the cut, he introduces some pieces of pure zinc, together with a sufficient quantity of the hydrochloric acid to be tested, into the larger vessel, and immediately connects it with the small absorption-flasks. Both of these contain distilled water; but to the first is added a drop of ammoniacal solution of chloride of copper, and to the second a drop of solution of nitrate of silver. The copper solution completely absorbs the hydrosulphuric acid gas [given off, if sulphurous acid was present], while it permits the arseniuretted hydrogen to pass undecomposed, the latter being detected in the silver solution [by the separation of metallic silver]. If much impurity is present in the original acid, a correspondingly large amount of copper solution must be added to the first flask; but as long as the contents of this exhibit a faint blue color, no hydrosulphuric acid gas will pass into the next absorption vessel, while, on the other hand, the least traces are recognized by a blackening inside of the tube conducting the gas into the solution.—*Pharm. Centralh.*, No. 29.



Crystalline Bismuth Subnitrate. — DR. H. LEFFMANN having occasion to examine the stomach of a patient who had taken poison, and who during the last hours of life took several doses of bismuth subnitrate, found the latter in the form of well-defined crystals, notwithstanding nearly all authorities speak of it as an amorphous or impalpable and insoluble powder. In examining fresh samples, he found that a Philadelphia manufacturer furnished regularly a crystalline preparation, while the product of another was amorphous. The crystals were most often about $\frac{1}{100}$ of an inch long, and half as wide.—*Med. Times*, July 31st.

RECENT PAPERS.

Preparation of Aceto-Tartrate of Aluminium: a New Antiseptic.—JULIUS ATHENSTÄDT, of Bad Essen, has obtained a German patent (No. 9,790, Nov. 21st, 1879) for a process of preparing the above salt. While acetate of aluminium cannot be prepared in a solid condition, so as to remain soluble (compare our August number, p. 250), Mr. A. found that a double salt consisting of acetate and tartrate of aluminium, possessing the same valuable antiseptic properties, may easily be obtained in a solid form, and still completely soluble. The quantative composition of the product is not constant, but varies with the amount of tartaric acid present.

The salt is obtained by dissolving basic (the ordinary insoluble) acetate of aluminium in solution of tartaric acid, or by mixing a solution of acetate of aluminium with tartaric acid, and evaporating either solution to dryness. *Five* parts of ⅔-acetate of aluminium require about *two* parts of tartaric acid.

The salt is recommended as a mild astringent and antiseptic in place of carbolic or salicylic acid.—*Die Chem. Industrie*, June.

Treatment of Poisoning by External Use of Carbolic Acid.—MR. SONNEBERG has found sulphate of sodium to be useful in the treatment of poisonous effects sometimes caused by the prolonged use of dressing with a 5% solution of carbolic acid. The dose is 5 to 8 gm. of the sulphate for adults, and 2 to 5 gm. for children, in 200 gm. of water. The urine which in such cases has become deep green tinged with brown, quickly reassumes its normal color, and the dressings can then be resumed without danger.—*Zeitsch. d. Oest. Apoth. V.*, 43.

Chrysophanic Acid from Rhubarb.—PROF. STÖDER, of Amsterdam, has obtained from the residue left after the preparation of Syrupus Rhei, as much of 0.9% of crystallized chrysophanic acid. The dried and powdered residue is percolated with benzol as long as the latter runs off colored. The percolate is deprived of most of its benzol by distillation on a water-bath, the residuary concentrated liquid poured off from the emodin which has deposited on the sides, further evaporated in the water-bath, and the almost dry mass dissolved in benzol, under cautious warming, whereby the remainder of the accompanying emodin is left behind. By evaporation and cooling, the chrysophanic acid crystallizes out, and may be obtained quite pure by again dissolving in alcohol and allowing to crystallize.—*Pharm. Zeit.*

Andalusian Wine-Manipulations.—During the festivals held at Paris, for the benefit of the inundated districts in Murcia, Spain, the attention of visitors was much attracted by a peculiar feat performed by native Andalusians, engaged for the purpose of retailing their own wines. The feat consisted in throwing the contents of the full wine glasses into the air, and to catch it again, without losing a drop.

When asked for the reason of this peculiar manipulation, which evidently required a great amount of practice, they declared that this was a common custom to cool wine which had become flat by standing.

Several œnological writers, among them Henry Vizetelly, mention similar habits of the *arrumbadores* (cellarmen) of Xeres, when taking out samples. The instrument used for this purpose, called *venencia*, consists of a long whalebone, to the end of which is fastened a small cylindrical silver vessel. After having removed the bung, which is always loosely inserted, the cellarman dips the *venencia* into the contents of the cask (which is never more than nine-tenths full), and, after withdrawing it, throws its contents by a sudden jerk upwards, into a glass held in the left hand.—*Die Weinlaube.*

This practice is not by any means confined to Spain, but may be said to have developed into an art among the bar-keepers in many sections of the United States.—ED. N. R.

Adulteration of Lycopodium.—P. APERY and BONKOWSKI EFFENDI report having received from a French house some lycopodium which was adulterated with the pollen grains of a species of coniferous plants, probably *Pinus sylvestris*. The color was a little deeper than that of the pure, and the powder is less mobile and less inflammable. It left 4.5% of ash, while five other samples obtained in Constantinople drug-stores, which were pure, left only 1.19%. [This requires confirmation; according to other authorities, f. i. *Pharmacographia* [2], 732, lycopodium leaves 4% of ash.]—*Journ. de Pharm. de Constantinople.*

Nitroglycerin in Migraine, Asthma, etc.—DR. A. W. M. ROBSON finds this remedy suitable for such cases as are usually proper for the use of nitrite of amyl, but it is more permanent in its effects and powerful. One or two drops of a *one-per-cent* solution will usually suffice, although sometimes three or four minims may be needed. One to eight minims have proved serviceable in angina pectoris, the dose being gradually increased to the larger amount.

Ozonwasser (of Krebs, Kroll & Co., Berlin), contains no trace of ozone, but an extremely small proportion of the oxidation products of hydrogen, nitrogen, and chlorine, which result from the different modes of preparation, and cannot be estimated quantitatively. Hager and Dr. Alb. Kremer found hydroxyl, R. Böttger, nitrous acid, Behrens (of Kiel), hypochlorous acid. The latter was probably prepared by treating with sulphuric acid a potassium permanganate contaminated with perchlorate. —*Chemist and Druggist.*

Camphor and Chloral.—DR. SIMMONS has used a mixture of equal parts, in doses of twenty drops, in mania with sleeplessness, with the effect of causing prolonged and refreshing rest. In mania, delirium tremens, etc., he has found it to serve as a sedative when other remedies of this class have failed. The effect of combination is far in excess of that produced by either remedy given separately, and Dr. S. mentions a case in which prolonged narcotism for several days followed the accidental taking of a dose of two drachms.—*N. Y. Med. Journ.*

Bichloride of Ethidene as an Anæsthetic.—DR. J. C. REEVE gives the following as the characteristics of this anæsthetic agent. It is a liquid scarcely to be distinguished from chloroform in appearance or odor, with a boiling-point of 58° C. and a vapor weight of 3.428. It is isomeric with bichloride of ethene, a dangerous substance for inhalation, the formula of each being $C_2H_4Cl_2$. It is commonly known as ethidene. Experiments upon animals show a diminution of arterial pressure, such as occurs when chloroform is used; but, unlike it, it does not advance to complete extinction, nor are there such wide variations in effects at different times in the same animal as in the case of chloroform. The difficulties of manufacturing and obtaining it pure have interfered with extended experiments with it clinically, but Mr. Snow believes that it will not be liable to cause sudden death as chloroform sometimes does. He has used it in sixteen cases, in all of which it acted well, without nausea or vomiting, although in three instances food had been taken recently. Thomas Bird, of Manchester, has given it to six patients, two of whom were children, one being but three months of age. It all these it acted well, nausea being caused in one only. The longest period of its administration in these latter cases was sixteen minutes. The Committee of the British Medical Association reports six cases without injurious effects upon either circulation or respiration, and indorses Steffen's opinion (Binz' therapeutics) that, compared with chloroform, ethidene is pleasanter, more rapid in action, causes no excitement during nor vomiting after administration, more rapid recovery from it, and, altogether, less danger attending its use. Keppler, in his recently published work on anæsthetics, cites the only published case of death following its use (in Berlin), of which no particulars are given.—*Chicago Med. and Surg. Exam.*, June.

Semi-annual Report on Commercial Drugs and Chemicals.

(From the September Report of Gehe & Co., Dresden.)

Acetic Acid.—The consumption of the ordinary as well as the glacial acid is increasing every year. A principal reason is that, even in the most distant cities of the East, the preparation of vinegar by the old processes is gradually being replaced by the use of diluted acetic acid.

Aethyliden Chloride (or *Bichloride of Ethidene*).—Has almost ceased to be in demand.

Ammonium Salicylate.—Is being used in very large quantities in a crude form, and is preferred to the sodium salt for many technical purposes.

Antimony.—A new antimony mine has been opened in Arimagori (Kabutoyama), Japan.

Apomorphia.—Is in good demand. The hydrochlorate has been used with success, according to Drs. Tomlinson and Murphy, in sunstroke, administered hypodermically.

Aspidospermine, the alkaloid of Quebracho bark, forms a grayish-white powder, little soluble in water, and gradually developing upon the tongue an intensely but agreeably bitter taste, resembling quinine. The sulphate and hydrochlorate are not crystallizable, but Gehe & Co. have succeeded in preparing a crystalline *citrate*, which is more easily soluble in water, and proportionally more bitter. The small yield, 0.33 per cent of the bark, causes a high price.

Atropine.—Gehe & Co.'s atropine has been again somewhat reduced in price. In effect and appearance it is excellent, being beautifully white and light. [We have used this exclusively for several years.—Ed. N. R.]

Arnica.—The harvest is moderately large, but owing to careless collection and drying, and consequent shrinkage, the price has somewhat advanced. Flowers without floral envelope are now in more frequent demand.

Balsam Copaiva.—Has risen in price owing to short supplies. Maracaibo balsam was at times altogether unobtainable, and that which appeared lately on the Hamburg market was New York stock. The high price of this article was the cause that wood-oil or *Gurjun Balsam* was eagerly bought up, even at double its former price.

Balsam of Peru.—Sophistications with gurjun oil and resins are more frequent than ever.

Belladonnine.—In consequence of the demand after homatropine, for the manufacture of which this alkaloid can be used as well as atropine, this obnoxious by-product in the manufacture of atropine has suddenly come into lively demand, and stocks have been almost used up.

Benzoic Acid.—All kinds of benzoic acid, whether prepared from benzoin, toluol, or urine, have become cheaper since the immense demand for it as a supposed remedy in diphtheria has been reduced to a minimum. Meanwhile new factories have been established to manufacture the acid by the recently discovered method, viz., from benzoyl-chloride, and the price is likely to recede further, although the manufacturers of aniline blue prefer the acid made from urine. Still they will rather also use that made from benzoyl-chloride than that made from toluol. According to Gehe & Co., the latter may be used for medical purposes, as well as that made from benzoin. [See, however, the article on *Benzoate of Sodium*, in our June number, page 173.]

Bismuth.—The price, which is based upon the coalition of the producers in Saxony (Germany), and Bolivia (South America), has remained very steady. Now and then complaints have been made on the presence of chlorine in the subnitrate. This has been found to be owing to the impurity of the nitric acid used in its preparation.

Bromine and Bromides.—American bromide of potassium could be sold cheaper on the Continental market than that made from German bromine. On the other hand, the American bromide is not free from chloride, like that made from Stassfurt bromine, but it is free from iodine.

Camphor.—Several lots of camphor refined in the United States have lately reached Hamburg. Reports say that it is not of as good quality as that refined in Germany. The price of camphor is likely to remain about the same in the near future.

Cantharides.—The consumption of this drug appears to be on the decrease, unless the diminished demand might be accounted for by an increased use of Chinese blistering flies.

Carnauba Wax.—Gehe & Co. have a white, bleached kind in stock now.

Chrysophanic Acid (or rather Chrysarobin) is gradually becoming a staple article of consumption. Its preparation from goa powder is by no means as simple as it would seem from operating on a small scale.

Cinchona Barks.—After the considerable advance in price—about 25%—of manufacturer's bark, during the first three months of this year, prices varied but little, hardly more than 5% over or below those ruling in last April. At present the reports from New York represent the market as quiet and the price of quinine lower; but this is ascribed to a desire on the part of the American manufacturers to discourage the importation of European quinine. Prices of good barks are very high; during August, 439 seroons of Colombia O Z bark were sold at 6/8, being the highest price ever paid for it; cinchona officinalis from the government plantations in Jamaica brought up to 8/10, and Ceylon bark up to 7/4. The supply of cultivated barks is by no means as yet sufficient to permit a reduction in the price of quinine, although some of the East Indian plantations exhibit an enormous increase. Ceylon, for instance, exported to England in 1876–'77, 10,968 lbs.; 1877–'78, 19,428 lbs.; 1878–'79, 220,926 lbs.; 1879–'80, 880,997 lbs. During the past year experiments have been made for the first time on the large scale *to strip off only the outermost layer of the bark, which contains most of the alkaloids.* For it has been found that, under proper treatment, the bark is renewed already after a few months, and that the new (or renewed) bark may again be collected after two years, richer in alkaloids than the first. Australia has also begun to cultivate cinchona barks, and a beginning has been made in California, where plants have been raised from East Indian seeds. The reports so far are favorable, but it is doubtful whether the climate south of San Francisco will be suitable for the trees.

Cinchona Alkaloids.—*Sulphate of Quinine.*—After discussing the causes which have kept the price of quinine at the relatively high figures ruling since April, among which is mentioned the fact that the American quinine makers had reduced their production and thereby had compelled consumers to draw a constantly increasing amount from European manufacturers, who in their turn were compelled to buy up available barks at advanced prices, Gehe & Co. refer to the efforts at present made by the American manufacturers to induce Congress to restore the duty on foreign sulphate of quinine, basing their petition chiefly on the fact that important ingredients used in the manufacture of the alkaloid are subject to government tax, either in the shape of internal revenue tax (for fusel-oil, alcohol, etc.), or as custom dues (for all barks not directly imported from South America or the East Indies). Gehe & Co. think it perhaps possible that the manufacturers may succeed in having the duty restored, if not at its original figure (20%), then at least at half the amount (10%), as a set-off for the taxes and duties. It would be, however, more correct, according to Gehe & Co., to abolish the import duties of 10% on bark, and to permit at the same time the denaturalization of alcohol by means of wood-spirit, instead of again imposing the high duty of import. The higher the price of quinine, the more temptation is offered to practise substitution of the cheaper alkaloids, and besides, the sooner would arrive the period when science will succeed to prepare an artificial quinine possessing all the properties of the natural base.—*Valerianate of Quinine* was in very brisk demand, and new stock cannot be made at present, owing to the want of *natural* valerianic acid, which is essential for the production of a handsome salt.—*Hydrochlorate of Quinine*

and Urea (chininum hydrochloricum carbamidatum), which some time ago had been highly recommended for hypodermic injection, has ceased to be asked for.*—*Sulphate of Quinidine* and *Sulphate of Cinchonidine.* While, on the one hand, the dealers in the Levant and East, who consume most of these salts, demand them to be delivered in as loose and light a condition as possible, in other words, demand them to be as much resembling sulphate of quinine as possible, manufacturers, as a rule, refuse to comply with this request. Sulphate of cinchonidine finds but a moderate use in Europe, and even in the United States it is said to be somewhat less in favor since it has been found that its lower price is not a sufficient equivalent for its lower activity.—*Sulphate of Cinchonine* was in good demand and has risen in price; so also *Hydrochlorate (Muriate) of Cinchonine*, which is so much in demand in the East as a substitute for sulphate of quinine. The buyers in the Levant rather pay a little more than the usual price for it, if they can only obtain it in a very light, bulky condition, white, and still distinctly crystalline.

Gehe & Co. add that it will, perhaps, at some time, be possible to use cinchonine as a starting point for making artificial quinine "in the retort." By the discovery of the *artificial* production of *quinoline*, which had previously been known only as a product of the decomposition of cinchonine, cinchonidine, etc., an important step has been made towards the production of artificial quinine. Since it has become known that quinoline may be prepared by heating together in a retort nitrobenzole, aniline, glycerin, and sulphuric acid, the solution of this problem has been greatly facilitated. It is said that this problem is assiduously studied and its solution sought for in the University Laboratories of Berlin, Munich, and Vienna.

Cotoine, the alkaloid of the true coto bark, as well as *Paracotoine*, that of the false (or para-) bark, have been in steady demand.

Digitalin.—Gehe & Co. are now preparing this entirely free from digitalacrin and allied bodies by purifying with ether and petroleum ether.†

Gum Arabic.—The arrivals of gum arabic in London and Trieste were greater than the export, and the prices of the ordinary Alexandria varieties have receded in consequence of the pressure of Australian and East Indian gums. Select qualities, however, were scarcely affected.

Homatropine (see October number, page 297).—This secondary alkaloid is now also manufactured by Gehe & Co. Before it can be sold at much lower prices, a cheaper method must be discovered for the preparation of one of the requisites in its manufacture, namely, amygdalic acid.

Hydrochloric acid has considerably risen in price [on the Continent of Europe] and was at times hardly obtainable, owing to the increased consumption, and, on the other hand, to its diminished production in consequence of the introduction of the ammonia-soda process. If the latter should gradually displace the old process of Leblanc (treatment of common salt with sulphuric acid, producing sodium sulphate, which is afterwards decomposed with calcium carbonate, etc., and hydrochloric acid as a by-product), chemistry will have to devise new methods for the preparation of cheap hydrochloric acid.

Hyoscyamine.—Gehe & Co. prepare now a *sulphate* of this alkaloid. [This should, by all means, be preferred to the alkaloid itself, because the latter is but little soluble in water, and the sulphate is readily so. As it is generally used by hypodermic injection, an aqueous solution of a neutral salt is preferable.—Ed. N. R.]

Iodine.—Respecting the late great decline in the price of iodine, which was ascribed by the representatives of of the iodine-coalition as "owing to the breaking of contract on the part of a Scotch manufacturer," Gehe & Co. think that this does not appear to have been the leading motive; on the contrary, the most prominent Scotch factory had been closed for two years, and only sold surplus stock, while Scotch iodine was altogether but a small factor in the market, and the demand is chiefly supplied by Peruvian iodine. But it is possible that the Peruvians, in their financial stress, had received considerable advances upon the available stocks of their iodine, a repayment of which would have been of doubtful practicability owing to the moderate consumption; and that, in order to hasten the process, no other remedy was at disposal but a considerable reduction in price, which might be calculated to give at once a considerable impulse to the iodine market, since all the world could be supposed to be eager to profit by this opportunity of putting in a considerable stock at very advantageous prices. This expectation was indeed realized; and after the reduction the "run" was so wild that the prices would certainly have advanced again if the stock on hand had not been quite immense, it is said a full two years' supply.

Lactucarium.—The crop of German lactucarium has again been a failure, and it is now higher in price than it has been for many years. By the way it may be noted that Gehe & Co. keep on hand *powdered lactucarium*, deprived of fatty oil and caoutchouc, both of which, together with the loss of moisture, amounted this year to over 50%.

Manna.—Late Sicilian reports give very gloomy prospects. In some districts, continued rains have destroyed the best part of the yield, and in other localities want of rain has nearly dried the trees up. Much higher prices may be expected.

Oil of Eucalyptus is now somewhat in request as a non-poisonous substitute for carbolic acid for antiseptic purposes.

Oil of Rose.—The severe winter and dry spring threatened to injure the rose districts at Kasanlyk, but subsequent favorable weather caused a better yield than had been expected. The production of this year (1880) is estimated at 300,000 meticals.*

In previous years it had been:

1873	600,000	1877	220,000
1874	320,000	1878	320,000
1875	430,000	1879	210,000
1876	360,000	(1880	300,000)

Oil of Ylang-ylang.—Gehe & Co. announce the arrival of a supply of finest quality "of the favorite and certainly genuine brand 'Zobel.'"

Opium.—(We have already in previous numbers given some account of the fluctuations of the present opium market. At present we confine ourselves to the following interesting notice contained in Gehe & Co.'s report:)

The cultivation of opium has been carried on during the last few years with great zeal in all the countries of its production, which is a sign that it yields a good profit, and that the consumption of it—we might add, unhappily—is on the increase. In Asia Minor, the districts of Karahissar, Konieh, Yerli, Bogaditch, and Balukhissar were formerly the only ones in which opium was regularly produced; but since 1868, when prices ruled very high, its cultivation was begun all over Anatolia, and during the last ten years the following quantities were raised:

1870	4,500 chests.	1875	6,300 chests.
1871	8,500 "	1876	3,250 "
1872	4,400 "	1877	9,500 "
1873	3,200 "	1878	6,100 "
1874	2,500 "	1879	4,200 "

The Persians, likewise, who may be said to have begun the regular cultivation of opium only about twenty-five years ago, have shown great activity during the last few years. Before 1874–'75, the largest annual yield was 2,600 chests, and in 1875–'76, the production fell to 1,890 chests. Since 1876–'77, however, a charge has taken

* This is probably owing only to the fact that the existence and use of this salt has not been sufficiently made known. Extensive trials made at Bellevue Hospital have developed the fact that it has so far (in upwards of 150 cases) never produced an abscess and acted most satisfactorily.—Ed. N. R.

† It is not probable however, that the above represents any single active constituent of digitalis, but that it is a varying mixture of several of them.—Ed. N. R.

* 1 metical = 4.8 grams.

place; for, in this year, 2,570 chests were exported from Bushir and Bender Abbas, which quantity rose in 1877–'78 to 4,730, and 1878–'79 to 5,900 chests. The whole product during the last-named year is said to have been 6,700 chests. The total export to China and England in 1879–'80 is estimated at 7,100 chests. Persian opium is mostly packed in cakes of ¾–1½ lbs., wrapped in fig- or vine-leaves. About five-sixths of the yield is prepared for the Chinese market; for this purpose it must be carefully worked up with oil and need not be rich in morphine, thereby affording a chance of adding about 20% of foreign ingredients. It is said that pure, prime opium, which was not so treated, has been refused on the Chinese market, while mixed sorts, but having a handsome appearance, found ready purchasers. That which is intended for the English market is, of late, prepared in a very pure condition and contains, on an average, 12% pure morphine. While Asia Minor and Persia occupy the first rank among the opium-producing countries, so far as the drug is used in medicine or for the preparation of the opium alkaloids, India has for a long time attained the lead in the production of opium intended for intoxicating purposes. The quantities and values exported to China have been in:

1874–75	94,746 chests.	Value	£11,956,972
1875–76	88,350 "	"	11,148,426
1876–77	96,870 "	"	12,404,748
1877–78	92,820 "	"	12,374,355
1878–79	91,200 "	"	12,993,979

Pancreatin.—Since this preparation (which serves to digest starch in the animal organism) has been prepared in a dry form and of greater purity than before, the demand for it has been revived.

Papaverine.—The pure alkaloid as well as the hydrochlorate is now in little demand. At present it is used only occasionally in Russia as a remedy in alcoholism, that is, as a sedative in delirium tremens.

Papaya.—The collection of the milky juice of the unripe fruits of the papaw tree, *Carica Papaya* L., is connected with many difficulties. It can only be obtained from the unripe fruit, as it disappears on ripening; besides, it is only obtained in small quantities even at the most favorable period. During the cooler months it is extremely scant, and it can only be obtained, to any advantage, during the time from August to April, by making incisions in the fruits hanging on the tree. After being plucked, a fruit yields at most only a few drops, which coagulate already upon the wounded spot. A fruit of 785 grams in weight yielded Dr. Peckoldt only 33 grams of the juice; hence the collection of even 1 kilo of the latter is a laborious undertaking, since every fruit must be incised repeatedly, and they are situated in very scattered positions upon the tree. The milk of the green fruit on first flowing forth has a strong acid reaction (like sheep's milk) and gelatinizes, even if mixed with three times its volume of water; it is odorless, astringent, faintly bitter, and has a spec. gr. of 1023 at 26° C. Dr. Peckoldt obtained a peculiar body, which he called *Papayotin*, from the juice of the fruit, to the amount of 7.848 per cent. From the juice of the leaves he obtained 0.119 per cent. Yet, in spite of the lesser yield, it will probably be more economical to prepare this substance from the leaves, since the latter may be obtained in any desired quantities, and all the alcohol used for extracting the juice may be recovered. The most active preparation is obtained by allowing the milky juice to fall at once into glycerin, which appears to prevent its decomposition and diminishes its annoying tendency to gelatinize. The glycerole keeps well, and Dr. Peckoldt has used it frequently in indigestion, where pepsin is indicated, with good results.

Papayotin, of which Gehe & Co. have a small quantity, is in form of an amorphous, snow-white, non-hygroscopic, odorless, and almost tasteless powder, insoluble in ether, alcohol, and fatty oils, but easily soluble in water and glycerin. It is said to be most energetic when prepared by the cold process, while, if heat has been used, its digestive action upon milk and albumin is said to be considerably diminished.

Pelletierine.—The *tannate* of this alkaloid, obtained from pomegranate root-bark, is in good demand as an agreeable and reliable remedy for tape-worm. It should be given in full doses to the amount of 1½ grams for an adult.

Physostigmine.—This alkaloid has become cheaper in consequence of a rivalry between the manufacturers, and of a declination of the price of Calabar beans. The extraordinarily hygroscopic property of the pure alkaloid, as well as of the sulphate makes it highly desirable that physicians should use with preference the *salicylate* which is free from that objection and is easily dispensed.

Pilocarpine.—The consumption of this important alkaloid, particularly in ophthalmic practice, as a rival of physostigmine for causing contraction of the pupils, as well as an internal remedy, is constantly increasing. [Probably because it contains *jaborine;* see above, p. 327.] It is also frequently employed hypodermically [as an oxytocic and as febrifuge], and its reputed virtues in promoting the growth of hair appear likewise to be [at least partly] confirmed.

Podophyllin (*Resina Podophylli, U. S. Ph.*).—According to J. Guareschi, podophyllin consists of two bodies: a resin soluble in ether, and a glucoside insoluble in ether; the latter is easily converted by treatment with emulsin or by boiling with diluted sulphuric acid, into sugar, and another body, not yet examined, appearing in form of a white powder. Dr. Podwissotzky, of Dorpat, has separated podophyllin into the following constituents:

1. Podophyllic acid	inactive.
2. Podophyllin quercitrin	inactive.
3. Picropodophyllin, light crystals	very active.
4. Podophyllotoxin, heavy crystals	very active.

The last-named is said to be poisonous. Gehe & Co. state that if podophyllin is prepared by precipitating with the aid of alum, the yield is smaller than if hydrochloric acid is used.*

Rhubarb.—Chinese rhubarb is likely to suffer a rise in price. The stocks in London, on August 1st, were only 947 chests, against 1,379 a year previously, and reports from China say that fine Shansi rhubarb is out of the market, while of Sze-chuen rhubarb the new crop will certainly be shorter, as the rebels had invaded the latter province.

Senega.—Gehe & Co. have in stock not only the true officinal Senega root, which is the "southern" variety, but also what is called the "western," which is stouter, thicker, and more free from fibres, and therefore often preferred to the other. The latter has of late been the subject of repeated discussions, because it differs considerably from the normal kind. [Compare what is said about it in the *National Dispensatory*, under "Senega." Prof. Maisch ascertained that it came from southwestern Missouri, and thinks it possible that the roots of other species of Polygala are collected in place of the normal.] Gehe & Co. think that it should not be regarded as another species, but that difference of soil, climate or cultivation may have influenced its appearance.

Senna.—Tinnevelly is very scarce, and hardly any is in handsome large green leaves. Alexandria senna is abundant, and very low in price.

Sodium Benzoate.—The enormous demand for this preparation, which began last fall and continued until late in the spring, has considerably let up; and it has the appearance as if the drug were going to be laid on the shelf.

Storax.—Liquid storax cannot be any longer obtained, even at the highest prices. Of this year's product the first instalment is expected about the end of September.

Succinic acid has risen about 25%. Hitherto this acid was obtained as a by-product in the manufacture of amber-varnish from amber-resin. But since this varnish has been partly displaced in the arts by more suitable products, the acid, which has so far been almost a waste product, must be made to cover the cost of its own production.

* This is contrary to the experience of most manufacturers and experimenters on this side of the Atlantic. Compare Mr. Feil's paper on page 132 of this volume.—Ed. N. R.

Sulphurous Acid.—The consumption of this acid in the manufacture of straw-goods, wines, and beer is annually increasing.

Vaseline.—Besides the Chesebrough-Vaseline which Gehe & Co. have so far exclusively delt in, as "the best American petroleum ointment," they have now also for sale a German variety, which has been brought into prominence by the authority of a celebrated chemist and by the indorsement of various large consumers. The price is only about one-half of the American. At first it was reported that the German vaseline irritated the skin, and it has required some effort to controvert this statement made by certain rivals, particularly as it was found that the German vaseline showed a different behavior towards alcohol from the American. These complaints have, however, ceased to be heard, and the German variety is now preferred, owing to its firmer consistence, higher melting point, and total freedom from odor when heated.

MESSRS. E. SACHSSE & CO., of Leipzig, in a circular of June 1st, 1880, make the following quotations and remarks on **Essential Oils.**

	per kilo.
Oil of anise, Russian, three times rectified, of excellent quality and cheaper than can be procured in Russia itself at present.....*mark*	26.
Oil of bergamot, genuine Calabrian, pressed by most reliable parties.....	24.
Oil of cassia. Finest. Though the price is still kept up in China, the large stocks in London and small consumption have together produced a declination of the price to.....	10.50
Oil of citronella. New supply daily expected permits a lowering of the previous high price to.	13.50
Oil of lemon. It is strongly recommended to purchase supplies now, to last till December	19.50
Oil of cognac. In consequence of the almost total failure of vintage, the production of this article has been greatly diminished, and prices have become higher and firmer:	
From genuine champagne grapes.....	180.00
" Rhenish grapes.....	90.00
" Moselle "	75.00
" Hungarian grapes.....	60.00
Oil of calamus. Reduced to only.....	13.50
Oil of geranium. French, rose. The yield this year is expected to be no larger than in the preceding year. Price will probably advance.....	95.
Oil of ginger. The lowest price yet reached....	27.50
Oil of caraway. Twice rectified, from Dutch seed.....	13.75
twice rectified from ordinary "meadow-caraway"	13.
once rectified from northern seed.....	12.50
Oil of lavender. Superfine, quintessence.....	15.25
" " Extra fine.....	12.50
" " Fine.....	8.
Oil of marjoram.....	60.
Oil of nutmeg, extra fine.....	15.
Oil of orange flowers, French petale.....	300.
(Neroli) Bigarade.....	240.
Portugal.....	200.
Oil of rose, virgin serail.....	780.
" " Kezanlyk.....	750.
both in original packages of ½, 1, and 2½ kilos	
Oil of rosemary, Italian.....	3.35
" " Dalmatian for denaturalizing spirits, etc.....	2.30
Oil of mustard, genuine, natural.....	55.
Oil of Ceylon cinnamon, finest.....	140.

Liquid Storax.—DR. J. BIEL, of St. Petersburg, draws attention to the fact that liquid storax may be dissolved with the greatest ease in coal-tar benzin, which forms the best menstruum to purify it. The quantity of impurities separated from common storax ordinarily amounts to about 10%.

Storax purified in this manner is completely soluble, to a clear liquid, in chloroform, ether, acetone; only partially so, with separation of resinous flakes, in strong alcohol, and *not at all* in petroleum benzin. It is decomposed by potassa.—*Pharm. Zeitung*, No. 61.

[The preceding article furnishes a new method for distinguishing between *coal-tar benzin* (*benzol*) and *petroleum-benzin* (compare NEW REM., 1879, 271). Having purified some storax by coal-tar benzol, and having recovered it from the filtered solution, it will be possible, not only to distinguish clearly between coal-tar benzol and petroleum benzin—since the former dissolves storax abundantly and the latter not at all—but it will also be possible to ascertain the proportions of the two, if mixed together, from the quantity of the storax dissolved, and ascertained on the basis of mixtures made for the purpose.—ED. N. R.]

Detection of Cotton-Seed Oil in Admixture with Olive Oil.—(BENJAMIN NICKELS.) A continental firm (consumers of oils) inquired on a recent occasion as to the simplest method of detecting admixtures of "cotton-seed oil" with "Lucca or Gallipoli," making a strong point of the want of such a test among consumers. Without entering upon the admitted difficulty of the case as regards the chemical aspects of the question, it has occurred to the writer that something might be done in the direction indicated by spectroscopic examination.

Pure "olive or Gallipoli," as examined by a Browning "direct vision" or pocket instrument, presents a deep shadowing or cutting-out of the blue and violet ray, with a fine, almost indistinct line in the green, and a strong, deep band in the red.

Refined cotton-seed oil similarly examined presents exactly the same appearance, but as regards the blue and the violet ray only, the green and the red being continuous.

Now if we take as a standard a given stratum of pure olive or Gallipoli, say a test-tube of ⅝ or ¾ in. in diameter, and a similar stratum or thickness of the standard oil in admixture with cotton-seed oil, there is no discernible difference as regards the shadowing of the blue and violet ray, but an almost entire fading out in the delicate line in the green, and a considerable diminution in the depth and intensity of the strong band in the red, consequent upon "dilution" or "thinning down." With 50 per cent in admixture, the loss in intensity is considerable; 25 per cent, the variation is marked and discernible.

A suspected sample, compared with and differing thus from the standard, and in the absence of any direct chemical evidence as to the nature of the oil in admixture, might fairly fall within the range of strong presumptive evidence pointing towards "cotton-seed" oil as the probable dilutant.—*Chem. News*, July 16th.

Treatment of Rattlesnake-Bite.—A professional snake catcher, of Holyoke, Mass., treats rattlesnake bites as follows: He first ties a cord tightly around the member bitten, so as to cut off the flow of blood toward the heart. The bleeding wound is then sucked out thoroughly to withdraw as much poisoned blood as possible, after which strong spirits of ammonia is applied. After a while the string is loosened a little to allow the remaining poison, if any, to be slowly absorbed into the system that no serious results are likely to follow.—*Scient. Amer.*

[Dr. J. Weir Mitchell, of Philadelphia, who some time since made a very elaborate study of the subject of rattlesnake bites, showed the importance of relaxing the ligature slowly, so as to allow but a small portion of the virus to enter the circulation at one time, and recommended the use of alcoholic drinks as a cardiac stimulant to antidote the effects of each successive portion of the poison so admitted to the general circulation. Ammonia doubtless serves the same purpose when taken internally.—Ed. N. R.]

Improvement in the Preparation of Carmine.—J. J. HESS has found that the previous removal of fat from cochineal, by means of alcohol, permits the preparation of a much purer and more brilliant carmine than without this treatment. The author finds 17% of fat (hard, crystallizable stearopten) in Guatemala, 7% in Java, and 18% in Canary cochineal.—*Dingl. P. J.*, 235, 88. and *Indust.-Bl.*

SOCIETY REPORTS.

THE PHARMACEUTICAL EXHIBITION AT SARATOGA.

THE exhibition of pharmaceutical and chemical goods and apparatus held at Saratoga during the recent session of the American Pharmaceutical Association, was notable not only for the number of exhibitors and the variety of articles, but also on account of the choice and interesting character of the goods shown. It was a matter of general remark among the members present that they had rarely seen its equal. Certainly at no time since the Centennial Exhibition of '76 have we had anything approaching it in excellence.

The hall chosen was the skating-rink immediately adjoining the room in which the meeting was held, and just opposite to Congress Hall, where most of the members lodged. The room was finely adapted for such a display and added much to its success. The arrangements which were made reflect much credit upon the local Secretary, Mr. Charles F. Fish, who was indefatiguable in his efforts to perfect the details of the affair.

The great variety of articles exhibited will prevent any systematic classification of them with the time and space at our disposal, and we will simply enumerate the exhibitors, and give general descriptions of their exhibits.

C. AM ENDE, of Hoboken, N. J., showed a complete list of specialties for use in antiseptic surgery, embracing hygroscopic or absorbent cotton, borated cotton, carbolated cotton, hæmostatic cotton, iodized cotton, salicylated cotton, carbolated absorbent cotton waste, carbolated jute, animal ligature, antiseptic wadding, compound liquid of borates, Lister's gauze, chemically pure cotton gauze, carbolic disinfectant powder, etc.

Mr. Am Ende was among the first in this country to devote special attention to this class of goods, and the excellence of his products is now generally acknowledged.

BULLOCK & CRENSHAW, of Philadelphia, exhibited a full line of sugar-coated pills and elixirs taken from their regular stock and not prepared specially for the occasion. The pills were notable from their having been coated without the aid of heat, and from the fact that the excipient used is not only soluble, but quite deliquescent, thereby insuring their permanent solubility. This firm guarantee the full quantity and purity in quality of the ingredients used. Especially is this claimed for their granules of arsenious acid, strychnia, atropia, podophyllin, and pills of quinia, phosphorus, etc., in the manufacture of which careful attention has been devoted to the subdivision and purity of the ingredients. In the case of elixirs, these manufacturers claim that while they have aimed at elegance of appearance and an agreeable flavor, care has been taken to insure that they contain exactly what is claimed by the label. The preparations of cinchona of this class were particularly noteworthy, as were also the aromatic elixir of licorice, aromatic elixir of galls, elixir of phosphate of iron, quinia, and strychnia not liable to precipitation, and an agreeable cathartic elixir.

Archibald's Suppository Mould, described and illustrated on page 134 of NEW REMEDIES for 1879, was also a part of the exhibit of this firm, in the hands of Mr. E. T. Ellis, who first brought it to general notice.

DEAN, FOSTER & Co., of Boston, exhibited a very large and beautiful line of druggists' glassware. The toilet bottles were in new designs and the cutting and engraving remarkable for excellence and good taste. The label work on the shelf-ware was notable for its correct abbreviation and careful writing which may be accounted for by the fact that it is the workmanship of men who have had many years of experience in this particular business. Five distinct lines of shelf-bottles were exhibited, a larger variety, so it is said, than is furnished by any other manufacturer. These embrace the "Regular" ware, the same made extra heavy and with the bottom cut or "punted;" also an extra heavy, fine lead glass, cut-bottom and cut-crown stopper, called "360 ware." They are now making a "Recessed Label" ware of heavy lead glass, the same as was furnished the trade by Mr. Walton some ten years ago. Another is a cut glass bottle with a cut diamond stopper, handsome and high-priced.

The show-bottles and jars were in designs equally new and handsome, some being just from the cutting shop and never before shown. The line of prescription vials showed both a great variety and excellence of workmanship. Green glass and beer bottles are also manufactured by this firm, but were not exhibited, owing to want of space.

THE "DRUGGISTS' CIRCULAR," of New York, had a table covered with specimen numbers for gratuitous distribution.

H. M. DURY, of Nashville, Tenn., exhibited a machine for coating pills with gelatin which we described and illustrated on page 30 of our number for January of this year.

W. G. DUCKETT, of Washington, D. C., showed a very superior line of syrups made from fresh fruits, and intended for use with soda-water, ice cream, etc. Excepting pineapples, all the fruit used is grown in the vicinity of Washington, and only choice kinds are employed. Care is taken in its manufacture to prevent deterioration at the time or subsequently. They are packed in quart bottles, and sell for $9.00 per dozen, with discount on quantities. Mr. Duckett makes also a Ginger-ale Extract and a Tonic Beer Extract. G. F. Gignoux, of 336 Broadway, N. Y., is his agent.

PROF. C. LEWIS DIEHL, of Louisville, Ky., was the exhibitor of upwards of 300 specimens of the fluid extracts which, as Chairman of the Sub-committee on Fluid Extracts, he has prepared with a view to the revision of the process to be adopted for the forthcoming Pharmacopœia. The beauty of many of the samples, as well as their important bearing, elicited much attention and favorable criticism.

DYKEMAN & MOTT, of Catskill, N. Y., displayed specimens of their emulsion of cod-liver oil and malt extract.

R. W. GARDINER, of New York, showed, in connection with W. H. Schieffelin & Co. (who are his general agents) a very full line of elixirs and syrups, that were notable for their general excellence. We gave on page 309 of our last number his formulas for these preparations, and will here say only that the purity of the hypophosphites used is reasonably thought to enhance greatly the therapeutic value of his products.

ANDREW GEYER, of East Cambridge, Mass., showed a variety of his "Crescentine" nipple-shields and breast-pipes that are already well known among "sundries." We gave a description and illustration of these goods on p. 187 of our number for June, 1878.

THE GLOUCESTER ISINGLASS AND GLUE CO. exhibited an interesting and large variety of these products of marine husbandry, that attracted general attention.

THE GALVANO-FARADIC MANUFACTURING CO. made but a partial display of the numerous apparatuses and accessories which they manufacture. Sufficient were shown, however, to represent the principles involved and the excellent character of their work. We noticed, especially, a pocket battery of recent construction, having a reservoir for containing the acidulated bichromate solution when the battery is not in use, and so arranged that leakage and injury to the instrument or its surroundings are hardly possible.

HUBER & CO., of Fond Du Lac, Wisconsin, collectors of indigenous roots, herbs, barks, seeds, etc., showed over 300 specimens of ground, pressed, and loose drugs that were of very notable excellence. They are the proprietors of extensive drug-mills, and guarantee the purity of their products.

KEASBEY & MATTISON, of Philadelphia, for the first time displayed the products of their manufacture of cin-

chona alkaloids. These, as well as the crude drugs shown by them, elicited very flattering comments.

LEHN & FINK, of New York, had one of the finest exhibits that we have ever had the pleasure of seeing. Their wares covered a table that extended nearly half the length of one side of the hall, and embraced 185 crude drugs, 116 alkaloids, 77 pharmaceutical preparations, 46 chemicals, 37 essential oils. A collection of all the known metals, another of alkaloids, and another of physiological preparations were contained in sealed tubes and glass cases. It would be hard to name a drug of importance, or which has recently attracted attention, of which they did not show beautiful samples. The tall glass jars of essential oils, with their delicate tints, attracted general attention. The whole was arranged with the good taste and neatness in detail characteristic of this enterprising house.

ELI LILLY, of Indianapolis, Ind., exhibited a great variety (over 600) of pills with sugar and gelatin coatings which attracted universal attention, not only on account of the quantity of goods displayed (over half a million pills so it was said, or over 3,000 lbs. weight), but because, also, of the beautiful workmanship of the pills, and the elaborate cases and jars in which they were shown. The regularity in sizes was something very remarkable as an evidence of skilful handling. It may be remarked that the gelatin coatings were applied without the use of needles, thereby rendering the mass completely sealed from the air and incapable of losing moisture by evaporation. Pills are not the only products, however, of Mr. Lilly's laboratory. He manufactures also fluid extracts, elixirs, syrups, wines, and pepsin preparations. Tarrant & Co., of New York, are the general Eastern agents for these goods, and had the general supervision of the exhibit.

LAZELL, MARSH & GARDINER, of New York, were notable for their display of perfumery and of granular effervescent salts, representing many of the best-known mineral waters, and composed also of saline remedies, the exhibition of which is rendered more agreeable by the adoption of this form of preparation. Upwards of a hundred crude drugs, in large bottles and jars, with corresponding bottles containing fluid extracts, and another group of fluid extracts put up for the market, made a prominent part of their exhibit. Scale preparations, a large variety of officinal preparations, crystals, and some forty of the powdered extracts, of which this firm makes a specialty; cod-liver oil, etc., were also included in this very complete and handsome collection.

JOHN MATTHEWS, of New York, sent an instructive and beautiful collection of his apparatus used for manufacturing and dispensing carbonated beverages, with "working models" and all the facilities for giving practical demonstrations of the methods employed. This feature of the exhibition, as may be imagined, excited very general interest, and elicited unqualified praise. The sectional models of apparatus showed in what ways the contamination of water and syrups with poisonous materials is rendered impossible, and how accidents from weakness in construction, flaws in materials, or improper management may be rendered harmless or altogether avoided. The counter-apparatus shown was notable for its elegance of design, materials, and workmanship. This house exhibited, also, specimens of their glass-etching by the sand-blast process, samples of marbles in great variety, specimens of marble in lump and ground, for the manufacture of gas, salts for extemporaneous preparation of mineral waters, etc., etc.

MAY, FIRNHABER & CO., of New York, exhibited varieties of their "Stilligoutte" stoppers, composed of cork with a metal cap, which allows the contents to escape in drops or in small quantities. We have already referred to these stoppers on page 151 of our last volume, May, 1879.

MCKESSON & ROBBINS, of New York, made one of the most instructive exhibits of crude drugs that we have ever seen. Occupying a considerable space in the body of the hall, with over eighty original packages, among which were a cask of chamomile flowers, five cases of gum Arabic, cases of rhubarb, gamboge, Calabar beans, arnica flowers (very fine), bales of sarsaparilla roots, Irish moss, coca leaves, ipecacuanha, sponges from the West Indies and Mediterranean, blistering flies, both Spanish and Chinese, senna, etc. But the most interesting were twenty-four bales and cases of cinchona barks, the greater part being cultivated East India varieties, some of very high grades: some cases containing samples of the finest East India bark (cultivated), testing 8% quinine; sample of true Calisaya, testing 4½% quinine; also samples of soft Colombian, with 2% of quinine. As an interesting appendix to these were upwards of 100 specimens of all the known combinations of acids and alkaloids in cinchona barks, including hyposulphite of quinine, sulphocyanide of cinchonidia, hydrobromate of conchinine, iod.-methyl. of cinchona, cinchotenine, chinovic acid, etc. This firm also displayed numerous other objects of interest, such as gurjun balsam, Chian turpentine, chaulmoogra oil, etc. They also showed samples of a full line of the gelatin-coated pills of which they are well-known manufacturers, fluid extracts, elixirs, syrups, and likewise some beautiful herbaria of officinal German plants, for the sale of which they are the agents.

P. J. MCILROY, of East Cambridge, Mass., had a large case of glass-ware made with blow-pipe and hand, the excellence of which is unrivalled. The collection embraced all varieties of syringes, case-bottles, breast-shields, tubes for chemical apparatus and for administering fluid food or medicine, etc. A scientific toy, in which the radiant force of sunlight causes the revolution of a set of vaned spokes, attracted much attention on the part of the lady visitors.

MELLOR & RITTENHOUSE, of Philadelphia, exhibited specimens of the licorice extract and root, for which they are noted. Their samples embraced Greek and Spanish licorice in mass, sticks, and lozenges, as well as ammoniacal glycyrrhizin, now coming into general use as a corrigent for quinia and other bitter and ill-tasting medicines.

J. M. MARIS & CO., of Philadelphia and New York, exhibited pharmaceutical and toilet glass-ware, as well as druggists' sundries into which glass enters, drug-store fixtures, etc. Their display was noticeable for the great variety of articles shown, and any enumeration would be quite out of the question. Some of their cut-glass toilet and show-bottles were particularly handsome.

H. S. MAYNARD, of Chicago, showed an apparatus for coating pills with gelatin, which was handsomely made and capable of turning out good results on a small scale. The time is rapidly coming when retail druggists will be obliged to devote some attention to this feature of their business.

H. SUGDEN, EVANS & CO., of Montreal, Canada, agents in the United States and Canada for the MONTSERRAT CO., made an exhibit of "Lime Fruit-juice" and "Montserrat Limetta Cordial," manufactured by that company. Care is taken in the expression of the juice to use only sound, ripe fruit, and the presence of 7% or 12 oz. of natural citric acid to the gallon is guaranteed.

J. H. NELSON, of Cleveland, Ohio, sent to the exhibition copies of his "Hand-book of Formulas," and "Poison Register and Poisons and their Antidotes," both of which have already been favorably noticed in these columns.

J. D. O'DONNEL, of Washington, D. C., showed samples of several varieties of his suppository moulds.

E. A. OLDS, of New York, exhibited some of the products of the "Packer Manufacturing Co.," notably, Packer's Tar Soap, and Packer's Florida-water Soap.

GEORG SHEPPARD PAGE, of New York, exhibited his apparatus used for vaporizing perfumes, and especially for volatilizing "Cresolene," a coal-tar product of the Cresol series which, for disinfecting purposes, is considered to be equivalent to phenol, or carbolic acid, which it closely resembles. Mr. Page has abundant evidence to prove the value of vaporized cresolene as a remedy for

whooping-cough, few cases lasting more than as many days under its influence as they ordinarily do weeks, when subjected to the usual modes of treatment.

Mr. Page had also with him a beautiful set of samples of coal-oil products, the gorgeous colors of which were of themselves sufficient to awaken the interest of one not familiar with the marvels that have been discovered by chemical research to reside in the "waste products" of coal-oil.

To return to "Cresolene," we wish to say that the possibilities in the way of destroying the germs which lead to the development of zymotic diseases will warrant a very extended trial of this simple and inexpensive apparatus, a description of which we have already given elsewhere. An illustration of it may be found among our advertisements.

POWERS & WEIGHTMAN, of Philadelphia and New York, never fail to make a display of goods which attracts even the most casual or uninformed spectator. In this instance, their exhibit was prepared especially for the occasion at an expense of $50,000, and was second only in extent and brilliancy to that of the Centennial Exhibition of '76. The table on which it was arranged occupied a space 8x30 feet in the centre of the hall, and its tall jars, with their bright-colored crystals, were to be seen from every part of the room. Among the most noticeable articles were the various salts obtained from opium and Peruvian bark, arranged side by side with the crude materials from which they were made. This arrangement was also followed in the case of citric acid (of which this firm are almost the sole manufacturers in this country), tartaric acid, bismuth, antimony, magnesia, strychnia, and some other of the more important (commercially) preparations. Nitrate of silver was also shown in large quantity and brilliant quality, and handsome crystals of bromide and iodide of potassium, as well as a full line of lithium, mercury, and copper salts.

PARKE, DAVIS & Co., of Detroit, quite justified their reputation for enterprise, by an exhibit of a general assortment of their manufactures, and of the crude vegetable drugs in which they largely deal. Samples were shown of quite all of the articles that have lately attracted attention in professional circles, down to a sample of Chian turpentine from Apothecaries' Hall, in the vaults of which it is said to have remained long unnoticed until the writings of Dr. Clay recently gave it a reputation as a cancer-cure. Dried bullock's blood from the slaughter-houses on the west side of the Hudson, pills coated with sugar and with gelatin (by a process recently patented) without the aid of needles; fluid extracts, etc., were also embraced among the articles exhibited by them.

J. H. PLAISTED, of Waterville, Me., showed samples of the suppository mould noticed by us on page 67 of NEW REM. for March last.

THEO. RICKSECKER, of New York, had a large and elegant line of the "Druggists' Sundries" for which his house is notable. Chief among these was the "Perfection" tooth brushes, for the manufacture of which he has within a couple of years equipped an extensive establishment at 35 De Kalb Avenue in Brooklyn. Already his brushes are meeting with unqualified acceptance by dentists and the tooth-cleaning public, in preference to those of foreign manufacture, and we expect soon to hear from our European confrères the bitter wail that Ricksecker's brushes, like Waltham Watches, Ames Axes, Western Beef, Newark Scissors, New York State Cheese, etc., are playing havoc with "home manufactures." These goods were exhibited in all the stages of construction, and attracted much attention. Besides this, Mr. R. showed a large case full of his other manufactures, such as toilet articles of all kinds, which the lady-visitors declared, without exception, to be "perfectly lovely;" and adhesive plaster, hospital lint and marine lint, with which Mr. R. is now supplying the Government medical service.

THE ESTATE OF L. E. G. RAWSON, of Saratoga Springs, exhibited "Rawson's Patent Elastic Self-adjusting U. S. Army Suspensory Bandages," in the choice of materials and construction of which especial care is taken to make a suspensory that will *suspend* and not one which will interfere with circulation of the blood and the movements of the wearer.

PROF. J. P. REMINGTON, of Philadelphia, had on exhibition an improved form of his tinned-copper pharmaceutical still, the main features of which we have already described (page 42 of our last volume). It is a beautiful apparatus and should be in the possession of every pharmacist who has use for such an appliance.

ROSENGARTEN & SONS, of Philadelphia, sent samples of their manufactures, which were, perhaps, less showy at first than some of their surroundings, but which nevertheless repaid the little labor required for their observation. Chief among the articles shown were the sulphate of quinine and sulphate of morphine, to which they devote much attention, but besides these were the sulphates, bromide, and salicylate of cinchonidia, citrate of iron and quinia, ferric alum, subnitrate of bismuth, iodide of mercury, hypophosphite of calcium, acetate, bromide, and permanganate of potassium, nitrate of silver, tannin, benzoate, hypophosphite, pyrophosphate, and sulphocarbolate of sodium, etc., all of which showed evidence of careful manufacture.

J. W. RANDOLPH & ENGLISH, of Richmond, Va., had one of the most attractive of exhibits. It would be difficult to imagine shapes and styles of paper boxes of which they did not offer examples, and many visitors were not content to leave the hall without going again to look at these handsome goods. The taste and skill displayed in the manufacture of these boxes, big and little, leave nothing to be desired. We have already noticed the perforated pill boxes, the diaphragm of which enables the contents to be separated as desired, and the paper boxes for ointments, rendered impervious to grease by an inner coating. These latter cannot fail to come into general use.

H. C. ROBINSON & Co., of Boston, made the only exclusive show of perfumery in the exhibition, and certainly held their own with all comers. Their bottles are of handsome shape, have cut-glass stoppers, and the name of each odor is engraved on its bottle. Among the choice odors they embrace "Ylang-ylang," "White Rose," "Jockey Club," and "Carnation Pink." "My Pasture" is their latest specialty and is said to be particularly fragrant and lasting. The goods of this house are being introduced very generally throughout the country and are said to have the faculty of "holding on."

SEABURY & JOHNSON, of New York, showed upwards of 300 specimens of their wares. Who does not already know of them? Besides the great variety of adhesive and medicated plasters, they exhibited samples of lint (of which they are the pioneer manufacturers in this country), antiseptic and absorbent dressings, and oiled-silk. To the manfacture of the latter they have recently directed special attention. All their goods were noted for the good taste displayed in their form and package, as well as the superior excellence of their quality. We are privately informed of an important novelty in their line of goods upon which they are now at work, and which they hope to be soon able to put into the market.

ROBT. SHOEMAKER & Co., of Philadelphia, exhibited a very superior light-colored Norwegian cod-liver oil, the manufacture of which is controlled by them, also steam-refined and pure yellow wax, and the well-known "Johnston's Fluid Beef," for which they are the general agents for the United States.

JAMES G. STEELE & Co., of San Francisco, Cal., sent specimens of fifty medicinal plants, indigenous, and cultivated in their State, some of which, as "Grindelia Robusta," and "Cascara Sagrada," are already pretty generally known. Others possessing decidedly remedial virtues have yet to be studied as completely as their merits deserve. Mr. Steele has very generously contributed the whole of this collection to the museum of the New York College of Pharmacy.

WM. H. SCHIEFFELIN & Co., of New York, made a very complete, handsome, and expensive display of goods,

prominent among which were 250 powdered officinal drugs, of both the primary and secondary list. These were ground to officinal grades, and arranged and labelled in accordance with their botanical classification. The preparation of drugs in this manner for the market has been suggested as likely to meet the demands of retail dealers who undertake the manufacture of their own fluid-extracts, tinctures, etc., and who may prefer to purchase their drugs already ground, when they can be assured of their purity and good quality. 200 specimens of fluid-extracts, 50 specimens of essential oils in large bottles, a large line of the "soluble pills" for which they are noted, and which have won such flattering testimonials abroad as well as in this country, were also shown.

A number of novelties belonging to this exhibit attracted much attention, viz., a sponge measuring over four feet in circumference, and having attached to its base fragments of the coral that served as a support for its structure; a collection of substances which, after exposure to light, were capable of becoming luminous in the dark. These were exhibited in a dark box, and were very interesting. 65 photographs of medicinal plants (by Lochman —already noticed by us in a recent number), cases containing specimens of rare alkaloids, physiological preparations, etc., in sealed glass tubes, pods of musk, an original package of civet packed in a cow's horn, an original package of otto of roses, a large bottle of ambergris, Tonka beans, showing their external coverings, a remarkably long pod of Cassia fistula, California medicinal plants, quebracho and coto barks, Chinese galls, etc.—altogether, a display which showed the extensive resources of this long-established house.

TARRANT & Co., of New York, had an exhibit which embraced that of Eli Lilly (for whom they are the Eastern agents), and many valuable and handsome articles from their own stock. Rare essential oils of beautiful quality were prominent, and the specimens of selected drugs were exceptionally beautiful. They also exhibited powdered alcoholic extracts, fluid-extracts, and a number of elixirs, syrups, wines, purified and granular salts, and scale-preparations, which attracted much attention. The combined exhibits were arranged so as to extend nearly the whole width of the farther end of the hall, and had a very decorative effect, owing to the lavish use of silver, polished walnut, red cloth, and plate glass.

TOURTEL & GERISH, of Boston, were exhibitors of "Stone's Cod-liver Oil," in various-sized packages.

JOHN WYETH & BROTHER, of Philadelphia, exhibit a large and handsome assortment of Pharmaceutical specialties.

Their elixirs, syrups, wines, etc., etc., are well and favorably known in all parts of the country. Their make of dialyzed iron is being recognized by the profession and trade as the standard preparation both in this country and abroad.

The fluid extracts, made by cold percolation from selected drugs, are elegant in appearance, and, in taste and odor, seem to thoroughly represent the properties of the drug. This fact, the manufacturers claim, is fully indorsed by those who have given the extracts a trial. The samples of crude drugs exhibited showed the quality of the goods from which the fluid extracts are prepared. Compressed tablets, of which they manufacture an extended list, offer a most convenient form of administering the various combinations. The tablets of chlorate of potash, muriate of ammonia, chlorate of potash and borax, peptonic, soda mint, bi-carbonate of potash, and bi-carbonate of soda will answer the indications of these remedies more promptly than any other form. The large sale enjoyed by the tablets is certainly the best evidence of their efficacy.

Papoma (a dietetic food for infants and invalids) represents the properties of wheat in a form well adapted for assimilation. Lambon's absorbent cotton is admirably adapted for wounds and ulcers, possessing advantages over the ordinary lints, in double properties of a dressing and an absorbent.

Bishop's granulated effervescent salts have an extensive sale in this country since their introduction by Wyeth & Brother many years ago, and the rapidly increasing sale is indicative of the satisfaction following their use.

The liquid preparations of this exhibit were shown in large, handsome bottles, the whole being displayed on a walnut stand and pyramid.

WHITALL, TATUM & Co., of New York and Philadelphia, as might have been expected, exhibited a general line of flint and green glass-ware, prescription bottles of various shapes, glass-labelled shelf-ware, cut and engraved show bottles, perfumers' glass-ware, and ware for laboratory use; also cut and fancy cologne bottles and a fine line of druggists' sundry goods.

Among the goods exhibited, special mention may be made of reagent bottles and bottles for prescription desks, having the labels blown in the glass, with the letters ground so as to be distinctly seen. Graduates, based on the American standard and also by the Metric system, and which are guaranteed to be accurate. Homœopathic vials of improved manufacture, very heavy, with lips finished by tools, making them all uniform in size and much stronger than the old styles. A large line of glass syringes of superior make and finish. Wedgewood mortars of American make, which equal the imported article in composition and finish, at much lower cost. Fever thermometers and hypodermic syringes, the latter in compact metal pocket-cases. Throat atomizers of improved form, which can be readily applied by one hand.

The very complete line of chemical ware shown is a specialty of this house, such goods used here having until recently been imported. Museum jars, with very large mouths, which can be tightly sealed by a simple appliance, and which are specially adapted to preserving specimens, are a new and useful article.

All the goods, of which samples are exhibited by this firm, are now largely exported to foreign countries.

P. O. & G. C. WILSON, of Boston, Mass., wholesale druggists, made a beautiful display of garbled drugs in regular packages, for which this house is so famous. The perfect forms of the leaves and flowers, the absence of stems and other foreign matter, and the vivid color and characteristic odor dependent upon careful drying, rendered the specimens very attractive and creditable.

CHARLES F. WHITE & Co., of New York, appeared to think it hardly essential that they should make a display of goods with which pharmacists through the country are so familiar, but they did send a collection of chemical products, chiefly of crystalline forms, which elicited much admiration. Strychnia, both the alkaloid and sulphate, valerianate of quinia, biniodide of mercury, salts of bismuth, and numerous other specimens were arranged in glass dishes so as to present to good advantage their marvels of color and form. As an aid to observation, large magnifying lenses mounted on stands were provided, which heightened the beautiful effect caused by the concave crystalline masses.

W. R. WARNER & Co., of Philadelphia.—The display made by this house was notable in the fact that they made a handsome array of diplomas, certificates, and medals received from all parts of the world, and which attest to the superiority of their products. For this reason a very extensive display as to quantity of their sugar-coated pills appears to have been thought undesirable. The exhibit comprised, however, a sample bottle of each pill regularly made by them, also pills of ferric carbonate, beautifully coated with silver, aromatic cachous, in handsome bottles; the elegant shelf-bottles, made with feet, which W. & Co. are introducing and which we have already noticed.

PROF. O. A. WALL, of St. Louis, had at the exhibition a large number of samples of the syrups which, as chairman of a sub-committee of the Committee on Revision, he had been preparing with a view to determining the process to be made officinal.

H. A. ZEILIN & Co., of Philadelphia, had a case filled with samples of their various preparations of hypophos-

phites, etc., prepared according to the formulas of the late Edward Parrish.

MINERAL SPRING WATERS. — The proprietors of the various mineral springs not only opened their establishments for the inspection of members of the Association, but some of them exhibited pyramids of bottled waters or specimens in barrels, both of which were subjected to "practical tests."

Besides the waters of the "vicinage," MYERS, SUTER & Co., of New York, showed water from the "Summit Spring," in Cumberland Co., Me.

Among the curiosities of the Exhibition was a fragment of a skull in a fossil condition, of some possibly unhealthy frequenter of the springs before they were as thoroughly known and fashionable as now; and other specimens of geological nature resembling petrifactions of snakes and lizards, with the true nature of which we are not familiar, were shown by the local Secretary.

We might, before closing, remark the courtesy with which the gentlemen in charge of the various exhibits answered myriads of questions, and demonstrated the peculiar features connected with their departments, but it would be quite unnecessary, it's the way with them. They always do it just so, and what would an exhibition be without them?

CORRESPONDENCE.

TO EDITOR OF NEW REMEDIES:

MY DEAR SIR:—Let me call your attention to a few errors, partly my own, and partly typographical, in the formulæ for elixirs taken from my paper, in your last issue:

In formula 5.—Phosphate sodium should read "7½ *oz.*" instead of "6½ *oz.*"—Citric acid should read "2 *oz.*" instead of "*grs.* 738."—Water of ammonia should read "*fl. oz.* 5½, or *q. s.*," instead of "*fl. oz.* 16," and the language "*And stir until this is dissolved*" should be replaced by "*And evaporate at under* 140° *F. to* 16 *Troy oz.*," and "*This solution represents* 50% *of the salt.*"

In formula 9.—Fl. ext. blackberry should read "*fl. oz.* 10 ℥ 320," instead of "*fl. oz.* 5 ℥ 320."

In formula 19.—Citrate strychnia should read "*grs.* 10$\frac{6}{25}$" instead of "*grs.* 10."

In formula 28.—"*Phosphate calcium*" should read "*Phosphate sodium.*"

In formula 30.—Sol. saccharated pepsin should read "*fl. oz.* 29 ℥ 123," instead of "*fl. oz.* 24 ℥ 123," and hydrochloric acid should read "℥ 30" instead of "℥ 290."

In formula 35.—"*Citro-ammoniacal sol. phosphate iron, fl. oz.* 2 *grs.* 64," should read "*Citro-ammoniacal ferric phosphate, oz.* 2 *grs.* 64."

Another explanation that it would be well to make is, that Troy ounces are intended whensoever mentioned in these formulæ. With kind regards, I am, etc.,

R. W. GARDENER.

NEW YORK, October 15th, 1880.

Process for preparing dried coagulated Milk.—German Patent No. 9,485, granted to Ermengilde Ch. Caratti and Marquis Adriano F. R. Doria Claparéde of Geneva, Switz. The milk is coagulated by cream of tartar, or sulphuric acid, etc., and then poured on a sieve so that the watery constituents may run off. The remaining mass is further deprived of liquid by a centrifugal machine, until a thick magma only remains. If the milk has been coagulated by means of an acid substance, some alkali is mixed with the magma—2 gm. of potassium carbonate or sodium bicarbonate for each kilo, and besides, one-tenth of its weight of powdered cane-sugar is added, to make up for the loss of the milk-sugar. The whole is then well mixed, dried, and powdered.

BIBLIOGRAPHY.

GRUNDLAGEN ZUR BEURTHEILUNG DES TRINKWASSERS; zugleich mit Berücksichtigung der Brauchbarkeit für gewerbliche Zwecke und der Reinigung von Abfallwasser; nebst Anleitung zur Prüfung des Wassers. Für Behörden, Aerzte, Apotheker und Techniker veröffentlicht von DR. E. REICHARDT, Professor in Jena. Vierte, sehr vermehrte und ergänzte Auflage. Mit 33 Holzschnitten und 2 lithogr. Tafeln. 8vo, Halle a. S.: Buchhandlung des Waisenhauses. 1880, pp. 170.

(GUIDE FOR THE EXAMINATION OF DRINKING WATER; with a Consideration of its Usefulness for Technical Purposes, and the Purification of Waste Water; together with a Guide for the Analysis of Water. Published for the use of Authorities, Physicians, Apothecaries, and Technologists, by DR. E. REICHARDT, Professor at [the University of] Jena. Fourth Edition, augmented and completed. With 33 Woodcuts and 2 Lithographic Plates.)

THE above work was originally published in 1869, by order of the Secretary of State of the Grand Duke of Saxe-Weimar, with a view to subject the various natural waters of the Duchy to exact chemical analysis, so as to obtain reliable data for determining the fitness of these waters for technical or economic purposes. Upon the basis of the results obtained by the original Commission, which consisted of Professors Ludwig and Reichardt in Jena, and Dr. Gerhardt, the present work was constructed. Though, from the nature of its purpose, the local waters are made the chief basis of the methods of analysis laid down, and no attention is paid to rare or abnormal constituents, such as may occur in special localities elsewhere, its general usefulness is thereby not at all impaired, for the same conditions are prevalent in almost all countries, with the exception of such localities where special manufacturing processes produce, by their waste products, abnormal conditions. The rapid absorption of four editions is a sufficient testimony for the value of the work, and we can give it no higher indorsement than the wish to see it translated into English, which it surely deserves. In one of our next issues we shall give some extracts from the work, from which our readers may derive useful instruction.

A TREATISE ON COMMON FORMS OF FUNCTIONAL NERVOUS DISEASES. By L. PUTZEL, M.D., Physician to the Clinic for Nervous Diseases, Bellevue Hospital Outdoor Department, etc. New York: William Wood & Co., 1880, 8vo, pp. 256. ("Library of Standard Medical Authors.")

THE author is best known as the translator of Rosenthal's work on Diseases of the Nervous System which appeared in the "Library of Standard Medical Authors" in 1879. His own contributions to the literature of this class of affections have heretofore been in the form of journal articles, but they have been of a high grade of excellence, and have been well received by the profession. In the present volume, containing chapters on Chorea, Epilepsy, Neuralgia, and Peripheral Paralysis—affections of very common occurrence in the practice of nearly all physicians—more space is devoted to their consideration than is commonly the case in systematic treatises on nervous diseases, and the work will, therefore, be an acceptable volume in the series to which it belongs.

TREATISE ON THERAPEUTICS. By A. TROUSSEAU and H. PIDOUX. From the ninth edition, revised and enlarged with the assistance of CONSTANTINE PAUL and Translated by D. F. LINCOLN, M.D. Vol. II., New York: William Wood & Co., 1880, 8vo, pp. 299.

THIS is published as one of the series of "Wood's Medical Library," and in order to bring it within the limits allowable it has been found necessary to omit the pharmaceutical details; descriptions of the physiological action of drugs; Articles on Milk, Raw Meat, Pepsin, Magnetism,

Electricity, Acupuncture, Massage, Gymnastics, Flagellation, Hydro-therapeutics, Caloric, and a small number of drugs of little importance; and also the Introduction, consisting of a history of the progress of medicine from ancient times, in all 980 of the original 2,196 pages of text. The portions retained may be fairly said to represent what is most valuable in the original, and as such will be well received in its present form.

The contents of Vol. II. embraces Chap. V.—Antiphlogistic Treatment; Chap. VI. — Evacuants; Chap. VII.—Musculo-motor Excitants, or Excito-motors, and Chap. VIII.—Narcotics.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Philadelphia: J. B. Lippincott & Co., 1880. $2.00 per part.

PART VII. of this elegant series of plates is descriptive of the following maladies: *Eczema pustulosum*, *Impetigo contagiosa*, *Syphiloderma papulosum* and *Lupus vulgaris*. Each plate is accompanied with a description of the case of which it is a portrait, and general remarks upon the disease and its treatment. It must be remembered that the edition is small, and that the stones from which it is printed are erased, so that those who desire to become its possessors should lose no time in subscribing.

A NEW SCHOOL PHYSIOLOGY. By RICHARD J. DUNGLISON, A.M., M.D. Illustrated with 117 engravings. Porter & Coats, Philadelphia, 1880, 8vo, pp. 314. $1.50.

THERE has been a need of late for a better work on physiology for the use of schools than the ones commonly found in the hands of pupils and teachers, and we are pleased to see that Dr. Dunglison has provided it. Not only is the quality of its matter excellent, but it has been published in convenient size, with good paper, clear and legible type, and well leaded lines. Too many of its predecessors show evidences of having been made with the aid of paste pot and shears from larger treatises, but in this the author evidently writes from his own knowledge of the subject, and the result is a work that cannot fail to excite among children an interest in the study of the subject.

SCHOOL AND INDUSTRIAL HYGIENE. By D. F. LINCOLN, M.D. Chairman Department of Health, Social Science Association. Philadelphia: Presley Blakiston, 1880, pp. 152. $0.50.

THIS is another of the entertaining and practical series of "American Health Primers" already noticed in these pages. There are few subjects connected with the public health that require to be as thoroughly agitated as these, and we are glad to see that the editor, Dr. Keene, has secured for it so able a writer.

THE ART OF PROLONGING LIFE. By CHRISTOPHER WILLIAM HUFELAND. Edited by ERASMUS WILSON M.D. From the last London edition. Philadelphia: Lindsay & Blakiston, 1880, 8vo, pp. 298. $1.00.

A WORK that has so often been through new editions for nearly a century and which still reads with a freshness such as belongs to few works of its class, needs little comment on the part of a reviewer at the present time. The principles of which it treats are so well established, and the manner in which the subject is treated is so attractive, that the work will probably long retain its well deserved popularity.

DISEASES OF THE PHARYNX, LARYNX, AND TRACHEA. By MORELL MACKENZIE, M.D., London, Senior Phys. to the Hosp. for Dis. of the Throat and Chest, etc. New York: William Wood & Co., 1880, 8vo, pp. 440.

THIS is another of the series of "Wood's Library of Standard Medical Authors," and its fitness as such no one can doubt who is aware of the professional labors of its author. The ground is covered very completely, much space being devoted to methods of treatment. The author impresses his belief that in syphilis, one of the most common causes of this class of affections, specific treatment is only required when serious constitutional symptoms are present, and that serious pathological changes are dependent upon conditions inherent in the patient. While very great importance is to be placed upon the value of local treatment, analeptic and hygienic measures are by no means neglected.

In spite of the fact that acceptable treatises on throat affections are now quite as common as they were scarce a few years since, this will, we think, be found to be a work of decided and practical value, and an important addition to this very admirable series of publications.

HYGIENIC AND SANATIVE MEASURES FOR CHRONIC CATARRHAL INFLAMMATION OF THE NOSE, THROAT, AND EARS. Part I. By THOS. F. RUMBOLD. St. Louis: Geo. O. Rumbold, 1880, sm. 8vo, pp. 174.

DR. RUMBOLD has for some time been known as an able authority on affections of this class. The result of his experience has shown the necessity for some work which might serve both patients and physicians as a reliable guide in this feature of the management of rather tedious maladies. It is plainly written and very comprehensive in its details, and cannot fail to prove of great value to both classes of persons interested. Its chapters relate to: The Importance of Preventing Colds. The Head (its protection and hygiene), Wrappings for the Neck, Clothing, Frequent Changes of Underclothing, The Feet, Colds Incurred by means of Draughts, Night Air and by Petty Acts of Commission and Omission, Temperature, Ventilation, etc., Diet and Stimulants, Exercise, Disposition of the Mind, Cleansing of the Nasal and Pharyngeo-Nasal Passages by Patients, Removal of Hardened Secretions from the Nasal Passages, Cleansing of the Ears, the Teeth, Bathing, Application of Oil to the Surface of the Body. Tobacco: its Mental and Physical Effects, and, lastly, Colds.

Part II. is to consist of therapeutic and operative measures.

A PRACTICAL TREATISE ON NASAL CATARRH. By BEVERLEY ROBINSON, A.M., M.D. (Paris). Lecturer upon Clinical Medicine at the Bellevue Hospital Medical College, New York; Physician to St. Luke's and Charity Hospitals, etc. New York: William Wood & Co., 1880, 8vo, pp. 182.

THE author is well known for the thoroughness with which he works up any subject which he undertakes, and for the fact that, while he has paid especial attention to affections of the throat, he is among the few who are not specialists in the strict sense of the term, having engaged in a general practice, and by hard work and constant application kept himself abreast of the advance in medical science generally. This fact renders his writings upon nasal catarrh of very practical value to the general practitioner, and in preparing this little volume the author has evidently tried to base its teachings quite as much upon his own experience as upon that of others.

CONSPECTUS OF ORGANIC MATERIA MEDICA AND PHARMACAL BOTANY, Comprising the Vegetable and Animal Drugs: Their Physical Character, Geographical Origin, Classification, Constituents, Doses, Adulterations, etc. Table of the Tests and Solubilities of the Alkaloids Appended. By L. E. SAYRE, Ph.G. Detroit: Geo. S. Davis. 1880, 8vo, pp. 220. $2.00.

WE have before called attention to the first edition of this work, and remarked its adaptability to the wants of students of Materia Medica. Its comprehension requires some knowledge of botany, and its use may stimulate those who are not already possessed of such knowledge to acquire at least the rudiments of that science. A few of the leading elements of this science are herein contained, but it lacks a series of plates, without which the verbal descriptions are sometimes difficult to be understood.

PROCEEDINGS OF THE PENNSYLVANIA PHARMACEUTICAL ASSOCIATION at its Third Annual Meeting, held in Allentown, June 8th and 9th, 1880. With the Constitution, By-laws, and Roll of Members. 8vo, pp. 74.

THIRTY-EIGHT pages of the report are occupied with suggestions for the Revision of the U. S. Pharmacopœia which are of a valuable character. The transactions proper

show that the Association is actively engaged in advancing the scientific status of the pharmacists of the State, and the roll of about 200 members speaks well for the way in which its labors have been appreciated.

THE SURGERY, SURGICAL PATHOLOGY, AND SURGICAL ANATOMY OF THE FEMALE PELVIC ORGANS. In a series of Plates taken from Nature, with Commentaries, Notes, and Cases. By HENRY SAVAGE, M.D., London, Fellow of the Royal College of Surgeons of England, etc. Third edition. Revised and Greatly Extended. 32 plates and 22 wood-engravings. With Special Illustrations of the Operations on Vesico-Vaginal Fistula, Ovariotomy, and Perineal Operations. New York: William Wood & Co., 1880. 8vo, pp. 138. ("Library of Standard Medical Authors.")

No work of this nature with which we are familiar has approached in practical value, artistic excellence, or anatomical correctness, the plates of Dr. Savage, and few gynecologists consider their libraries complete without a copy. The high price and scarcity of the original edition have, however, usually rendered its possession a matter of some difficulty, and the profession is greatly indebted to the enterprise which includes it in the series of volumes published at such low rates. The plates of this edition are in no wise inferior to the original ones. Indeed, they are of unusual excellence as lithographic drawings. The convenient octavo size has been retained, and the entire text of the original reproduced.

THE PHYSICIAN'S VISITING LIST, published for thirteen years by Lindsay & Blakiston, of Philadelphia, is now ready for 1881 and may be had in sizes to suit, twenty-five to one hundred patients weekly, in one or two volumes, at a cost of $1.00 to $3.00. Now is the time to order.

PRICES CURRENT OF HARRIS & EWING, wholesale druggists, of Pittsburgh, Pa.

THIS convenient volume is gotten up in small shape, with rounded corners and a loop to admit of its being suspended. The margins of the pages are indexed by cutting, catch words, and letters which greatly facilitate reference to the contents. While less space than is usually devoted to advertisements and illustrations, those which appear are of a useful character.

THE STUDENT'S DOSE-BOOK AND ANATOMIST COMBINED. By C. HENRY LEONARD, A.M., M.D., Detroit: 1880, pp. 60; $1.00.

THE demand for these little manuals has led to their combination in one volume, whereby their usefulness is somewhat increased.

THE CALIFORNIA HORTICULTURIST AND FLORAL MAGAZINE. CHARLES H. SHINN, editor. John H. Carmanny & Co., 409 Washington street, San Francisco, Cal. Publisher's price, $2.50 per year.

THIS is a monthly journal devoted to the cultivation of trees, flowers, fruits, and vegetables, chiefly on the Pacific coast, which deserves hearty encouragement and patronage. It contains very instructive articles on a variety of practical and technical topics relating to horticulture and arboriculture, and will amply repay the annual subscription. The current volume is the *tenth* of its existence.

KANSAS CITY REVIEW OF SCIENCE AND INDUSTRY. Kansas City, Mo.: THEO. C. CASE, editor. Monthly, $2.50.

WE have had on our exchange-list since its commencement this very interesting and valuable scientific journal. The nature of the matter which we publish in NEW REMEDIES does not admit of any considerable number of quotations from this source, but we have always looked over its pages with much profit and pleasure, and we take this special occasion for urging upon our Western readers the propriety of supporting, by their subscription, a journal that embraces so much interesting material, and is so creditable a medium for the exchange of scientific intelligence.

THE SKIN IN HEALTH AND DISEASE. By L. DUNCAN BULKLEY, M.D., Attending Physician for Diseases of the Skin, and Venereal Diseases at the New York Hospital; out-patient department. Philadelphia: Presley Blakiston. 1880, 12mo, pp. 148. 50c.

THIS is the tenth volume of the series of "American Health Primers" which we have already noticed. The author is among the best known dermatologists of this country and has succeeded in writing a very good popular treatise on this special branch. The physiology of the skin, its hygiene and its diseases are treated of in a way that is calculated to enlighten even physicians upon many practical points.

FROM HARRIS & Co., of Salem, Ohio, we have received a new illustrated catalogue of their extensive line of cut and gummed labels, prescription labels, etc., in plain, gilt and fancy colors. Those who desire a supply of goods of this description will do well to send for a book of specimens.

PRICES CURRENT. COLBURN, BIRKS & Co. Pure Drugs, Chemicals, etc. Peoria, Ill., 1880, 8vo, pp. 666.

APPARENTLY no expense has been spared in getting up this volume; colored margins, profusion of illustrations, especially of recent additions to the list of druggists' sundries and very complete lists of proprietary preparations and specialties being a few of its features. The list of drugs and chemicals is very complete and the volume is interspersed with numerous advertisements of leading houses.

REPORT OF THE BUREAU OF GENERAL SANITARY SCIENCE, CLIMATOLOGY, AND HYGIENE, to the American Institute of Homœopathy, Session of 1880. Philadelphia: 1880, 8vo, pp. 59.

WE are indebted to Dr. B. W. James, of Philadelphia, Chairman of the Committee, for this report, which embraces papers on International Quarantine, National Quarantine, Quarantine for Refugees, Disinfection of People, Cargo, and Baggage in Quarantine, The Cordon Sanitaire, The Location and Sanitation of Quarantine, with an appendix containing the discussion of the report.

NATIONAL ASSOCIATION FOR THE PROTECTION OF THE INSANE, AND THE PREVENTION OF INSANITY. Boston: Published by the Association. 8vo, pp. 31.

THIS contains the by-laws, list of members, and papers relative to the above topics that have been presented to the association during the past year.

REPORT ON THE CULTURE OF SUMAC IN SICILY, AND ITS PREPARATION FOR MARKET IN EUROPE AND THE UNITED STATES. Prepared under the direction of the Commissioner of Agriculture, by Wm. McMurtrie, Ph.D. Washington: 1880. 8vo, pp. 32; plates VIII.

THIS interesting report is another evidence of the enlightened effort being made by the Department of Agriculture to advance the commercial interests of the country.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, for the year 1880. Published by the Society. 8vo, pp. 578, with an appendix of 85 pages.

THIS volume contains the usual report of proceedings, and the text of thirty-six papers, some biographical sketches, the lists of delegates and members, and the membership of county medical societies. The appendix contains the by-laws of the society, the System of Medical Ethics, and the medical laws of the State. The volume should be in the possession of every member of a county society in the State, if for no other purpose than that he may be familiar with the matter contained in the appendix. The papers published are of a valuable character, and the work of editing the volume has been very ably accomplished by the Secretary, Dr. Wm. Manlius Smith, of Syracuse.

PROCEEDINGS OF THE WISCONSIN PHARMACEUTICAL ASSOCIATION. First Annual Meeting held in Madison, July 14th and 15th, 1880.

This Society has been organized under very auspicious prospects. The roll of members at this first meeting amounts to seventy-five, and we notice among them a number of the most prominent pharmacists of the State.

NOTES, QUERIES AND ANSWERS.

Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us, as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects, in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

No. 783.—**Tasteless Tincture of the Chloride of Iron** (J. L. R.).

According to the statements of Mr. J. L. A. Creuse, who first proposed this preparation, the formation of a tasteless iron salt is produced by adding 2 equivalents of an alkaline citrate to a solution of chloride of iron corresponding to 3 equivalents of chlorine. The effect of this is the formation of a new salt of a green color, quite tasteless, and miscible with vegetable infusions, such as those of cinchona, etc., without change or discoloration. Owing to the variable nature of the solution of chloride of iron (ferric chloride) the quantity of the alkaline citrate to be added varies. Mr. Creuse states that 90 to 100 grains of citric acid, saturated with ammonia or soda, are about sufficient for one fl. oz. of tincture. We have made the preparation several times and have found it better to use a larger quantity of citric acid. We think the following method probably as good as any other:

Reduce 450 grs. of citric acid to powder, put it into a flask or capsule, and add to it gradually stronger water of ammonia, until the acid is dissolved and neutralized. The solution should not be alkaline, and may even be very slightly acid. It is then allowed to cool and afterwards diluted with water until it measures 2 fluid ounces.

One fluid ounce of solution of chloride of iron is mixed with an equal measure of alcohol, and the latter solution gradually, and under constant shaking or stirring, poured into that of the alkaline citrate.

The resulting tincture will measure 4 fl. oz.

No. 784.—**Oil of Benne** (J. C. N.).

We have made inquiries in various reliable quarters about the subject of your inquiry. We find that Oil of Benne or Oil of Sesame is imported here by different houses. For instance, the custom house lists state that Messrs. Schieffelin and Co. (William st., N. Y.) imported, in July, 10 barrels or 3,528 lbs. from Marseilles. Weaver and Sterry (Cedar st., N. Y.) imported, in August, 20 barrels or 927 galls., etc., etc. Sesame seed is but little imported. A larger lot which arrived some time ago is said to have gone to Providence, where it was probably ground for oil. In the course of our inquiries we ascertained the fact that a lot of 7 barrels of the seed had lately been imported from Curaçao, West Indies, where the cultivation of sesame seed had heretofore not been known to be carried on. We visited the vessel upon which it was shipped here, and ascertained from the mate that it is grown there and will soon be shipped in larger quantities. We have accidentally learned, in the course of our inquiries, that one of the latest uses to which oil of sesame is put is to form a constituent of oleomargarine, or artificial butter. Owing to its blandness and sweetness this oil seems to produce a better article than other oils.

No. 785.—**Bulbs of Saffron** (G. F. D.).

You may purchase bulbs of the Saffron Crocus from any of the large seed-houses in the Eastern Cities, f. i., B. K. Bliss & Sons, 34 Barclay st., N. Y.

The price is about 30 cents a dozen, or $2.00 per 100.

No. 786.—**Elixir of the Phosphates of Iron, Cinchonidia, and Strychnia** (S. W. T.).

This may be made on the basis of the formula for a similar elixir, containing quinia instead of cinchonidia, proposed in the Formulary of Non-Officinal Preparations in Use in the District of Columbia (Wash., 1875), with some modications.

Take of

Strychnia	grs. 2
Cinchonidia	" 64
Pyrophosphate of iron	" 128
Diluted phosphoric acid	q. s.
Water	" 3
Syrup	" 3
Simple elixir	" 8

Dissolve the strychnia and cinchonidia in 1 fl. oz. of water with the aid of diluted phosphoric acid (tribasic); dissolve the pyrophosphate in 3 fl. oz. of water. Mix the two solutions and make up the volume, with water, to 5 fl. oz. Then add the syrup and simple elixir. Filter, if necessary.

Every 100 grs. of sulphate of cinchonidia yield 39.2 grs. of the pure alkaloid. The above 64 grs. of cinchonidia, therefore, may be obtained by precipitating 163 grs. of sulphate of cinchonidia.

No. 787.—**Enamel for Iron Ware** (D. A. O.).

Among the more recent processes for coating iron ware with glaze or enamel, the following may be quoted:

1. Mix powdered glass, 16; powdered fluorspar, 8; borax, 12; potassium nitrate, 4 parts, and oxide of zinc, 1 part. Melt them together, and grind the mass with water to an impalpable magma. Then coat the iron articles with the paste, dry them, and heat them to redness in a muffle furnace. The glaze may be variously colored by the admixture of cobalt, manganese, iron, and other salts.

2. Mix finely-ground quartz, 50; borax, 22.5; powdered fluorspar, 7.5, and heat them together in a clay crucible until a sintered mass results. Pick out the impure pieces and reduce the rest to powder. Take of this 16 parts, quartz, 12.5; gray clay, 4 to 6.5, and borax, 0.5 parts. Grind them together with water, and add, during the grinding, 2.5 parts more of clay, and 0.66 parts of borax. Then apply the paste to the iron ware, and burn it on. Afterwards, when the ware has become cold, the glaze proper is applied. This consists of a mixture of fluorspar, 25; oxide of zinc, 5.75; bone ash, 0.75, and a small amount (0.03 to 0.05) of smalt. The latter is added to counterbalance any yellowish tinge in the enamel.

3. A novel kind of coating is that recently patented in Germany by A. P. G. Daumesnil, of Paris: 1 kilo of borate of lead is ground with water to an impalpable powder; 12 grammes of platinum chloride are dissolved in water, precipitated with ammonia, the resulting precipitate, after being well washed, mixed with the borate of lead, and 5 litres of water added. The objects are coated with this mixture, and afterwards heated in a muffle to a strong red heat, until the coating has assumed the color of unpolished iron.

Previous to applying any enamel, the iron ware must, in every case, be macerated in dilute sulphuric acid, scrubbed with sand, washed with hot water, and dried.

No. 788.—**Mikania Guaco** (Ed. D.).

The name *guaco* is applied in South America to various plants belonging to the genera *Mikania* and *Aristolochia*. They have been used by the natives as antidotes to poisonous snake-bites, and afterwards as antisyphilitics. Lately, guaco has been strongly recommended as a remedy in cholera, and in chronic diarrhœa. Though at present the market is generally supplied with "guaco" derived from *Mikania Guaco* Humb. et Bonp., yet it seems that at least a portion of its reputed remedial virtues have been ascribed to it wrongly, owing to the fact that the kind of guaco in which they were found to reside was derived from several species of *Aristolochia*, which are all strongly aromatic, while the true *Mikania Guaco*

is inodorous (when dry), and said to be devoid of active properties. You will, of course, find a number of testimonials in recent literature respecting the value of guaco, but you should not assign too great a weight to this; first, because the true origin of the guaco, from which the preparations were made, is not in every case insured; and second, because isolated experiments on single patients can rarely be considered as sufficient proof for the peculiar action of remedies.

No. 789.—**Glass-Wool** (J. K.).

A superior article of glass-wool which is said to be free from sulphides, and is suitable for the filtration of hot or cold liquids, is made by L. Palmer, in Wiesenthal, near Reichenberg, in Bohemia. The price per kilo is, according to the fineness and softness of the texture, 50, 40, 35, 30, or 25 marks. We know of no manufacturer of this article in this country, although Messrs. Lehn & Fink, of this city, have an imported article which they guarantee to be pure, and sell for 50 cents per ounce.

No. 790.—**Leube's Meat Solution** (G. W. W.).

Prof. W. O. Leube, of Jena, published an article entitled: "*Ueber eine neue Art von Fleischsolution, als Nahrungs- und Heilmittel bei Erkrankungen des Magens*" (On a new kind of meat solution as nourishment and remedy in diseases of the stomach), in the *Berliner Klinische Wochenschrift*, for 1873, No. 17. The use and employment of the solution is sufficiently well known, but the mode of preparation does not seem to be commonly known, though we have given it in one of our former issues. We will therefore repeat it: 1,000 grams of beef, completely freed from fat and bones, are chopped fine, put into an earthenware or porcelain pot, and 1,000 cc. of water and 20 cc. of pure hydrochloric acid are added. The porcelain pot is then set into a Papin's Digester, covered with a tight-fitting lid, and boiled for 10 to 15 hours, stirring occasionally during the first few hours. After about 10 to 15 hours, the mass is taken out of the pot and triturated in a mortar until it has the appearance of an emulsion. It is then again boiled for 15 to 20 hours without lifting off the cover of the Papin's Digester; afterwards the acid is almost completely neutralized by the addition of pure carbonate of sodium, the whole finally stewed down to the consistence of thin paste and divided into 4 portions, each representing 250 grams of beef.

The pasty mass may also be dried completely, when it may be administered in form of powder or of troches. For long keeping the dry form would no doubt answer best.

No. 791.—**Ferricyanide of Potassium** (Sch.).

Referring to our inquiry on page 316 of our last number, we can now give the desired information, as we have seen the article in question ourselves. Some of our friends have also had the kindness to assist us in the search.

The author of the paper is J. Schuler, and the paper appeared in the "Sitzungsberichte der Kais. Akademie der Wissenschaften zu Wien," 77 (II.), 592. The results of the author hardly admit of abstraction. One item will serve to show the purport and extent of the paper.

Barium fericyanide, $Fe_2(C_{12}N_{12})Ba_3 + 20H_2O$, is formed, according to the author, by oxidizing barium ferrocyanide with lead peroxide. The salt forms large brown-red crystals. It is easily soluble in water, but is insoluble in alcohol. The crystals effloresce in warm and dry air, and become covered with an orange-yellow crust. After long exposure to light, this powder no longer dissolves completely in water, a greenish powder, together with some barium ferrocyanide, remaining behind. The solution contains much undecomposed ferricyanide with some ferrocyanide.

The paper may be obtained separately by ordering it through some importing book dealer, or directly from the agents of the academy, Carl Gerold's Söhne (Barbaragasse 2, Wien, Stadt).

No. 792.—**Preparation of Artificial Slate** (J. B. B.).

We have lately noticed a German patent, granted to A. Rosenbach, in Berlin, which seems to contain a solution of the problem. The object of this inventor is to produce upon paste-board, wood, paper, tin, or leather a water-tight hard coating *for writing upon it*. He directs to dissolve 3 kilos of sandarac and 3 kilos of shellac in 40 litres of 90% alcohol; then to add 6 kilos of diamond-emery, 1.5 kilo of lampblack and 0.3 kilo of ultramarine. The mass having been thoroughly stirred, it is applied to the object and ignited, whereby the resinous ingredients melt together.

No. 793.—**Pain-Expeller** (F. & B.).

As a supplement to our answer, given under No. 771 in our last, we may add here that, according to the *Pharm. Centralhalle*, "pain-expeller" is said to be composed of:

Tinct. of capsicum	35.0	gm.
Oil of lavender	1.0	"
" rosemary	1.0	"
" lemon	1.0	"
" cloves	1.0	"
" orange flowers	0.5	"
" chamomile, ether	gtt. 2	
Camphor	1.5	gm.
Comp. spirit of melisse	10.0	"
Oil of peppermint, Engl.	10.0	"
Soap, powd.	0.5	"
Water of ammon.	8.0	"
Caramel	q. s.	

No. 794.—**Oil of Eucalyptus for Antiseptic Dressings** (W. B. H., N. Y.).

Dr. Th. Siegen recommends, in the *Deutsch. Clin. Wochensch.*, No. 30, oil of eucalyptus for the preparation of moist dressings, which are inexpensive and rapidly prepared. 3 grams of oil of eucalyptus are dissolved in 15 gm. of alcohol, and the solution mixed with 150 gm. of water (which, of course, separates most of the oil, though it can be retained in suspension for some time). This solution is then incorporated into ordinary gauze, previously well washed so that it will absorb the liquid readily. This gauze is applied moist, covered with gutta-percha paper and the whole well fastened with gauze-bandages. In cases where thymol-dressings were found to be inert, the eucalyptus-dressing gave very good results. It has also the advantage of not affecting the skin in any way and not producing eczema, even if the strength of the solution is raised to 5%. Much depends on the quality of the oil of eucalyptus, since there are various sorts, and they do not all seem to act alike.—The above is taken from the *Pharm. Centralh.*, No. 33.

No. 795.—**Barbour's Ethereal Tincture.**

One of our correspondents desires to know the formula for this tincture. He states that it has been published in French journals about the year 1836. It was used extensively in the treatment of cholera. We have, so far, been unable to find it. Will some of our readers kindly supply the information.

No. 796.—**Sediment in Fowler's Solution** (Alpha).

The cause of the sediment in the liquor potassii arsenitis, U. S. Ph., is undoubtedly the coloring matter, red saunders, contained in the compound spirit of lavender. We know of no method to prevent this deposit, which may easily be gotten rid of by filtering the solution after it has stood for some time. It has been proposed to either omit the compound spirit of lavender or to substitute the simple spirit for it; but this would, in our opinion, be risky, as both physicians and pharmacists have become so much accustomed to recognize Fowler's solution by its peculiar appearance. It may, perhaps, be possible to overcome the difficulty by substituting another coloring matter, viz., cochineal, for the red saunders. Experiments in this direction are being made now, and we shall report on them in due time.

No. 797.—**Tamar Indien** (Th. M.).

Answer has been delayed without our fault. The late Dr. Freeman J. Bumstead, of New York, ascertained from the manufacturer, in Paris, that this preparation was mainly powdered senna leaves, mixed with an agreeable confection.

No. 798.—**Cologne** (Columbus, O.).

The following formula, among many others, has given good satisfaction.

Oil of lemon	1½ fl. oz.
" bergamot	1½ "
Pomade jasmine	2½ oz.
Oil of rosemary	6 fl. dr.
" neroli	2 "
" lavender	1 "
" cloves	1 "
" cinnamon	1 "
Musk	5 grs.
Tonka bean	60 "
Tr. benzoin	3 fl. dr.
Water	16 fl. oz.
Alcohol	1 gall.

Macerate the musk, Tonka bean (cut small) and jasmine pomade with 1 pint of alcohol, for a week, occasionally slightly warming the bottle, so that the pomade will melt. Then add the remainder of the alcohol, dissolve in it the oils, add the tincture of benzoin, and finally the water. Let stand several weeks, then filter.

No. 799.—**Aromatic Syrup** (W. D. McC.).

There is no standard formula for such a preparation. It may be made by flavoring ordinary syrup with suitable aromatics, or by making an aromatic water, in which the sugar may be dissolved. For instance, in the following manner:

Take of

Spirit of Orange (1 of fresh oil of orange in 10 of alcohol)	2 fl. ʒ
Spirit of cinnamon (1 of oil of Ceylon cinnamon in 10 of alcohol)	10 min.
Water	q. s.
Sugar	12½ ʒ
Precipitated phosphate of calcium	½ ʒ

Triturate the spirits with the precipitated phosphate of calcium, and then with 5 fl. oz. of water gradually added; filter the whole through a well-wetted filter, and wash the latter with water, until 6 fl. oz. of filtrate are obtained. In this dissolve the sugar.

It is, however, preferable to dissolve at least a portion of the sugar in the water before it is triturated with the oils. The sugar causes the water to increase in volume, and a somewhat larger proportion of the aroma is thereby dissolved; besides, the presence of the sugar itself, independent of the increase in bulk, makes the oils a little more soluble. If the whole of the sugar is first dissolved in the water, the syrup would be rather too thick to run through an ordinary filter. But it may be cleared by shaking it with well-pounded pulp of filtering paper and straining.

No. 800.—**Churchill's Syrup of Hypophosphites** (O. A.).

Though we have given the reputed formula for this syrup in our last July number, we will repeat it again here:

Hypophosphite of calcium	256 grains
" sodium	192 "
" potassium	128 "
" iron, moist	69 "
Hypophosphorous acid	240 "
Syrup of vanilla	8 fl. oz.
Boiling water	q. s.

Triturate the hypophosphites in a large mortar, gradually adding about 4 fluid ounces of boiling water and the acid; decant the clear liquid, add a little more boiling water, and triturate again until the salts are dissolved. Then filter, and pass enough water through the filter to make the solution measure 8 fl. oz. To the solution, while still warm, add the syrup of vanilla, previously acidulated with a little hypophosphorous acid, and strain.

If you will turn back to page 221 of our last July number, you will find an additional formula there.

No. 801.—**Flavoring Extract of Lemon** (Alpha).

Take of the exterior yellow rind of fresh lemons, deprived as much as possible of the white inner layer, and partially dried in the open air, 16 oz. Cut it into fine slices and bruise them in a mortar thoroughly. Then add to it 1 gall. of deodorized alcohol (95%) and let it stand for several days, occasionally shaking, until the alcohol has extracted the color of the peel. Then dissolve in it 20 oz. of oil of lemon, which must be fresh, and has preferably first been thoroughly washed with water and filtered. Finally, let stand a few days and filter.

No. 802.—**Compound Aromatic Elixir of Licorice** (C. L. C.).

The formula given by Prof. J. P. Remington, in 1877, is as follows:

Take of cinnamon, 6 parts; star anise, 4; coriander, 7; caraway, 7; tonka, 4; canella, 2; nutmeg, 2; cloves, 2; ammoniacal glycyrrhizin, 40; fresh oil of orange, 2; alcohol, 532 parts; syrup, 1,000; water, 475 parts. Mix the oil of orange with the alcohol and water, and percolate the aromatics, which must be previously reduced to fine powder, with the mixture, obtaining 1,000 parts of percolate by the aid of water. Dissolve the ammoniacal glycyrrhizin in a small quantity of boiling water and add to the rest after mixing with the syrup. If an agreeable simple elixir is at hand, the ammoniacal glycyrrhizin may be dissolved in it in the proportion of 1 part to 50 parts of simple elixir.

No. 803.—**Cereus Grandiflorus** (B. W.).

The following extract from a paper on *Cactus*, by Dr. Richard E. Kunzé, of New York, which was read before the Eclectic Medical Society of the State of New York, Oct. 22d, 1874, will furnish the information you desire.

Cereus grandiflorus (*verus*) De Candolle, Synonym *Cactus grandiflorus*, night-blooming cereus or vanilla cactus, is the noblest of all the cactus tribe, so far as it relates to their flowers, which are of remarkable beauty and fragrance. When arrived at a sufficient strength, it will produce many exceedingly large, beautiful, sweet-scented flowers, like most of this kind, of very short duration, scarcely continuing six hours full blown; nor do the flowers ever open again when once closed. They begin to open between 7 and 8 o'clock in the evening, are fully blown by eleven, and by three or four in the morning they fade and hang down quite decayed; but during their short continuance, there is scarcely any flower of greater beauty, or that makes a more magnificent appearance. The calyx of the flower, when open, is nearly a foot in diameter, the inside of which, being of a splendid yellow color, appears like the rays of a bright star. The outside is of a dark brown, and the petals, being of a pure white, add to the lustre; the vast number of recurved stamens surrounding the style in the centre of the flower make a fine appearance; added to all this is the fine scent of the flower, which perfumes the air to a considerable distance around. There is scarcely any plant which deserves a place in a hot-house so much as this, especially as it may be trained against the wall, in the manner of a vine, not taking up much room. The usual season of its flowering is in July, and when plants are large, many flowers will open the same night, and there will be a succession of them for several nights together. Another strange feature of this, as well as other night-blooming cacti, is, that its mature flower-buds do not emit any fragrance in the day-time. It is not succeeded, in cultivation, by any appearance of fruit. This, in its native haunts of Jamaica, is of a beautiful violet and yellow color, as long as a good-sized plum. The joints or stems are from one-half to two inches in diameter, seven-angled or more, and, from its creeping habit, ascend

any convenient tree or shrubbery, often covering up its neighbor with its luxuriant shoots and flowers to such an extent that it is with difficulty ascertained whether the object you behold is a cactus or some other tree. This holds good with many of the creeping, trailing, and slender species of cerei which, also, for want of a better support, oftentimes overrun the ground and rocks above. Here they trail like serpents over the ground and twine themselves in knotty coils around fallen trunks, and among the crevices of the barren rocks. Others hang like ropes from the limbs of over-shadowing trees, and often present impenetrable jungles to man or beast. This cereus grandiflorus is the one so highly extolled as a remedy in certain diseases of the heart. It inhabits Jamaica, W. I., and is cultivated for the beauty of its flowers in adjacent islands as well as in Europe and the United States of America.

Cereus Bonplandii Parmet or "white grandiflora" is another variety of night-blooming cerei, nearly allied to the last-named species, from which it differs more in the shape of its joints than in the size and color of its flowers. In growth it is not as rank as the other, with stems four or five-angled, slightly ribbed, and not so thickly beset with spines as the other varieties, stems rooting; joints from one-half to one and a half inches in diameter, and in color of a deeper green. The flower proper is from seven to eight inches long, including the flower-tube nearly a foot, and it measures fully nine inches in width. The sepals of the tube are of a cinnamon color, the outside row of petals is of a lemon-yellow, and the inner row a pure white. In fragrance it is not excelled by any other variety, and it flowers at night very much the same as the preceding variety. The fruit is small. It is a native of the West India Islands. Of this it may be said that, like other night-blooming cerei, it can be changed in its habit of flowering at night, and made to produce flowers of equal beauty and fragrance in broad day-light. I will now state what Mr. Schott, director of the botanic garden in Vienna, accomplished with one of these plants to suit the whim of an emperor, who could not have thought of such an idea as to make a visit to the Conservatory by night for the mere purpose of beholding a cereus grandiflorus in flower. For three months in succession, Mr. Schott caused this cereus to be shaded, and finally excluded from all light during the day, at the same time subjecting it to the action of an electric light at night in such a way that, by this gradual change of light into darkness, the habit of the plant was reversed, so that it flowered between the hours of nine and ten o'clock in the morning, during the month of July, in the year 1850, giving the Emperor Francis Joseph an opportunity to view it at his leisure. As a medicine, this species has proved itself to be a valuable acquisition to our materia medica, especially in all functional disorders of the heart.

PRESCRIPTIONS AND FORMULÆ.

We shall be obliged if our readers, who make use of these formulæ, will inform us of their experience with them, and note any errors or modifications worthy of attention.

Cosmetic Pomade.—

White wax	4½ oz. avoird.
Lard	4¾ oz. "
Balsam of Peru	60 grains.
Oil of orange flowers	30 drops.
" lavender	5 "
" cloves	6 "
" rosemary	5 "

Melt the lard, wax, and balsam, and stir them constantly until they thicken, when the oils are added. This is then poured into moulds; when cold, wrap up each stick in wax-paper and tinfoil.

Black stick pomade is made by mixing forty grains of best lampblack, carefully rubbed up with a portion of the lard.

Brown, by using burnt sienna in the same way; and various shades of brown, by mixing burnt sienna with lampblack.—*Pharm. J. and Trans.*

Good Filling for Teeth.—A filling that has been very successfully used for teeth, and which is next to gold leaf in permanency, is made of the following ingredients:

Oxide of zinc (recently made by burning)	200 parts.
Powdered silica	8 "
" borax	4 "
" glass	5 "

Mix and pass through a very fine sieve.

To be kept in a well stoppered bottle. When required for use, a little of the powder is mixed quickly with a concentrated solution of chloride of zinc, so as to make a thick paste, which is pressed into the cavity of the tooth and will harden in less than ten minutes. It forms a hard white cement which will last for years.—*Pharm. J. and Trans.*

Castor-oil Emulsion.—The following is recommended by Mr. Charles A. Heinitsh, of Lancaster, Pa., who states that it contains 50 per cent of oil, is palatable, does not gripe, and given in the dose of an ounce, is nearly or quite as effective as the same quantity of oil:

℞ Ol. ricini	fl. ʒ viij.
Glycerini	fl. ʒ ij.
Syr. simplicis	fl. ʒ iij.
Ol. cinnamomi	♏ x.
Ol. menthæ viridis	fl. ʒ ss.
Aq. menthæ viridis	fl. ʒ iij.

To make O. i. of emulsion. The stock bottle containing it should be kept in a cool cellar, but the amount required for dispensing will keep well in the store.—*Trans. Penn. Pharm. Assoc.*

Tartaric Acid in Diphtheria.—VIDAL, in order to prevent contagion, considers the local treatment of diphtheria as very important, and had used tartaric acid for this purpose during a long time. This is said to destroy the pseudo-membrane, and to act exceedingly well as a local remedy, though the general treatment cannot be dispensed with. He uses the following:

℞ Acid. tartarici	10.0 gm.
Aquæ menthæ piperitæ	25.0 "
Glycerini	15.0 "

—*Deutsch. Med. Zeit.* and *Pharm. Centralh.*

To Fasten Cloth or Leather upon Tables, Desks, etc.—Prepare a mixture of "1 kilo wheat flour, 4 tablespoonfuls of powdered rosin, and 2 tablespoonfuls of powdered alum" (according to the *General Anzeiger f. Maler u. Lackirer*), rub the mixture in a flat capsule or other suitable vessel, with water, to a uniform smooth paste, transfer this to a small kettle over a fire, and stir until the paste is perfectly homogeneous, without lumps. As soon as the mass has become so stiff that the stirrer remains upright in it, transfer it to another vessel, and cover it up, so that no skin may form on its surface. This paste is applied in a very thin layer to the surface of the table, the cloth, etc., then laid and pressed upon it, and smoothened with a roller. The ends are cut off after drying. If leather is to be fastened on, this must first be wetted. The mass is then applied, and the leather rubbed smooth with a cloth.—*Pharm. Centralh.*

Camphor and Carbolic Acid in Diphtheria.—DR. PÉRATÉ has seen very favorable results in diphtheria, after the use of the combination of camphor and carbolic acid, recommended by Soulez:

9 gm. of carbolic acid are mixed with 25 gm. of camphor and 1 gm. of alcohol, and the whole mixed with 35 gm. of fixed oil of almonds. The affected parts are brushed over with this solution, throughout their whole extent, every 2 hours in the day and every 3 hours at night. After a few days the applications are renewed at greater intervals. The mixture has a very disagreeable taste, but children soon get used to it.

NEW PATENTS.

[*Complete specifications and illustrations may be obtained of any one or more of the following patents by sending the number, title, name of patentee, and date of issue, with twenty cents for each copy, to the Commissioner of Patents, at Washington, D. C., together with the name and address of the person requesting the same.*]

July 26th, 1880.

230,415. *Phosphated Nutritive Powder.*—Samuel W. Haley, Brooklyn, N. Y. The process of preparing an improved nutritive compound from milk, consisting in first precipitating the caseine and albumen by monobasic phosphoric acid, washing the soluble matter therefrom, and drying the curd; second, in adding to the dried mass tribasic phosphate of soda, salt, bicarbonate of soda, and flour.

230,423. *Bottle-Stopper.*—John F. King, Washington, D. C.

230,501. *Apparatus for the Recovery of Waste Sulphuric Acid.*—Aurédée Sébillot, Paris, France, assignor to James Kingon and Francis A. Kieffer, New York, N. Y.

August 3d, 1880.

230,605. *Stopping or Closing Bottles, Jars, or Similar Vessels.*—Henry Barrett, Hampton, Eng.

230,639. *Combined Syringe and Force-Pump.*—Pearl C. Lewis, Catskill, N. Y.

230,660. *Triturating Mill.*—Judah T. Robertson, New York, N. Y.

230,672. *Hog-Cholera Compound.*—Ezekiel Y. Salmon, Lynchburg, Tenn. Sublimed sulphur, 1 lb.; copperas, 1 lb.; unslaked lime, 5 lbs.; with water. This mixture is diluted with water, or added to the swill in the proportion of one pound for each five hogs, averaging 100 lbs., once a day.

230,678. *Ointment.*—James A. Thomas and Frank E. Kinbley, Hartford, Ky. An ointment for the treatment of piles, consisting of stramonium, belladonna, opium, hydrastin, and lard.

230,702. *Testicle Suspensory.*—Theo. W. Heinemann, Chicago, Ill.

230,710. *Bottle Wrapper.*—Henry J. Mark and William F. Martineck, St. Louis, Mo.

230,730. *Bottle-Stopper.*—Thomas G. Austen, Oswego, N. Y.

230,791. *Bottle-Stopper and Fastening.*—John M. Lewin, Lockport, N. Y. Assignor of one-half of his right to John Baxton Naismith, same place.

August 10th, 1880.

230,874. *Pulverulent Preparation of Phosphoric Acid.*—Eben N. Horsford, Cambridge, Mass. The process which consists in boiling down to a suitable consistency the liquor resulting from the action of sulphuric acid upon bone-ash taken directly from the leach, and thereafter adding starch and drying and pulverizing the compound.

230,877. *Corkscrew.* Joseph Kersuth, New Britain, Ct.

230,885. *Can-Top.*—Edward T. Mason and Frank A. Bergman, Chicago, Ill.

230,898. *Paint-oil from Petroleum Acid Residues.*—Andrew G. Shade and George H. Moore, Verona, Pa. A composition consisting of the neutralized saponified residuum of acid tar compounded with rosin and turpentine as a base for paints and paint oils.

230,960. *Medicine-Measuring Tube.*—Samuel D. Mott, Menlo Park, N. J.

230,997. *Remedy for Hog Cholera.*—John Bolton, Putnamville, assignor to one-half his rignt to David Bolton, Coal City, Ind. Consists of sulphate of potash, sulphate of iron, sulphate of soda, borax, sulphur, and sulphate of copper.

231,035. *Tannin Extract.*—Paul Gondolo, Paris France: First, macerating the crude material containing the tannin in slightly acidulated water; second, neutralize the free acid by an alkali, or its equivalent, as described; third, clarify the solution by the introduction of blood, and then raise the temperature to the coagulating point of blood and, finally, separate from the tannin-liquor the coagulated blood, with the salts and coloring matter by filtration.

231,120. *Medical Compound for Ague.*—Orphana Taylor, Caledonia, Ohio. Consists of paw-paw root, blackberry root, wild-plum root, crab-apple root, balm of Gilead root, yellow-root, hops, and alcohol.

231,137. *Remedy for Hog Cholera.*—Silas M. Yourn, Bradyville, Tenn., assignor to J. N. Patten, W. H. Yourn, and F. Y. Beavers one-fourth to each: consists of antimony, twenty pounds; spirits of turpentine, fifteen pints, and coal-oil, five pints.

231,172. *Cement Compound.*—Henry Jordan, San Francisco, Cal. Composed of silica, oxide of iron and alumina, combined with lime, soda, potash, magnesia, and alum, tempered with refuse from gas-works or tanneries.

231,230. *Bottle Stopper.*—John Klee, Dayton, Ohio.

231,236. *Process for Coating Pills.*—John P. Nemours, St. Louis, Mo., assignor to Parke, Davis & Co., Detroit, Mich. The process consists in first rolling them in a solution of hot gelatin, then separating them by agitation while immersed under a layer of warm linseed oil, or its equivalent, and finally draining them.

231,328. *Process for Rectifying Spirits.*—Casper Kalthoff, Buffalo, N. Y., assignor of two-thirds of his right to Gustav Fleischmann, same place. The process of rectifying alcoholic spirits, consisting, essentially, in mixing with the spirits a small quantity of nitrate of silver, and then redistilling the same.

August 24th, 1880.

231,447. *Soda-water Dispensing Apparatus.*—Alvin D. Puffer, Boston, Mass.

231,487. *Urinal for Invalids.*—Jane Henry, and James R. Smith, Chicago, Ill.

231,439. *Obtaining Tannic Acid.*—Julius Holtz, Berlin, Germany, assignor to Chemische Fabrik auf Actien (vorm. E. Schering), same place. The acid is obtained in an acicular form, at a low temperature, by forcing the evaporated extract through a perforated floor, into a heated chamber, in which a partial vacuum is formed. The product is stated to be non-hygroscopic, will not cake, and a perfectly clear solution may be obtained therefrom, besides being free from products of decomposition due to high temperature.

231,516. *Multiplying Scale-Beam.*—Charles E. Allen, Mansfield, Pa.

231,517. *Copying Pad.*—Michael Alisoff, St. Petersburg, Russia, assignor to Charles George, Kleberg, London. Patented in Belgium, June 16th, 1879; in Russia, July 2d, 1879; in France, Sept. 3d, 1879, and in England, Feb. 25th, 1880. The composition for a matrix or pad for transfer-copying, consisting of about 8 parts of animal glue, 2 parts of glycerin, 5 parts of tannin solution, and water sufficient to give the composition the desired consistency.

231,518. *Bottle-Stopper.*—Albert Albertson, Jersey City, N. J., assignor to John Matthews, New York, N. Y.

231,524. *Bottle-Stopper and Fastening.*—Wallace H. Bate, Boston, Mass., assignor to himself and Joseph Middleby, same place.

231,538. *Apparatus for Generating Gas for Mineral Waters.*—John Collins, Brooklyn, N. Y.

231,539. *Wagon for Gaseous-Liquid Fountains.*—John Collins, Brooklyn, N. Y.

231,597. *Siphon Bottle for Aërated Liquids.*—John Matthews, New York, N. Y.

231,611. *Medical Compound.*—Julius A. Pratt, New Orleans, La., assignor of one-half his right to Wm. Whann. Composed of iodide of potassium, tincture of cimicifuga, wine of colchicum seed, tincture of stramonium, tincture of opium (camphorated), and tincture of coffee.

TRADE NOTES AND NOVELTIES.

[*Under this heading the Editors will notice such novelties in "Sundries," Apparatus, Preparations, etc., as may be brought to their attention. Samples, circulars, etc., should be accompanied with cuts, when possible, and addressed to the Editor of* NEW REMEDIES, 27 *Great Jones Street, New York.*]

J. J. REQUA, of this city, is engaged in preparing for the market a line of "sundries" of attractive and reliable character at low prices; one of these has come to hand in the shape of a **"Substitute for Tobacco,"** composed of licorice, slippery elm bark, chamomile and gentian, the proportions of which are given on the label. A couple of ounces are nicely put up in Crooke's embossed foil, so as to make a handsome package.

THE HOWARD MANUFACTURING CO., of New York, are the makers of the **"Acme Shaving Tablet."** A nickel-plated box, open at one end and holding a retangular cake of shaving soap wrapped in tin foil. This not only makes a handsome appearance, but it is well adapted to be carried or placed among other articles without soiling them. It is not so much the case, however, as the fine quality of the soap of which the manufacturers boast, it being the result of forty years' experience in this line of goods.

J. B. THOMPSON & CO., 54 Broad street, are dealers in soap and watches; that is to say, they offer to the trade a "Royal Palm" soap, made from palm oil; and one box (of a half-dozen cakes) in twenty-five contains a stem-winding watch. They have not favored us with a specimen of the latter, but the soap, which is their "specialty," appears to be of good quality and will "wash."

H. PLANTEN & SON, the well-known makers of Gelatin capsules, have introduced a refinement in veterinary practice that is likely to meet with much favor, viz., a line of gelatin capsules for administering medicine to horses and cattle by either the mouth or rectum. For the former there are two sizes containing, respectively, one-half and one ounce. Those intended for the rectum have conical covers to facilitate their introduction, and hold a little less than one ounce. Ten capsules will be sent by mail on the receipt of 50c. and Reynders & Co. and Caswell Hazard & Co., of this city, will supply them.

THE BINGHAMTON OIL REFINING CO., of Binghamton, N. Y., for whom JONES EAVENSON & SONS, of Philadelphia and New York, are the sole agents, are the manufacturers of a line of petroleum preparations that are worthy of special notice. They give to their goods the general title **Petrolina,** but manufacture several varieties for different purposes. The paraffins of which they are composed are solid up to a temperature of 100° to 110° Fahr., and in the plain form are quite without the odor of the petroleum from which they are obtained. Their list of goods embraces the Plain, Arnicated (8%), Camphorated, Carbolated (3%), Pomade, Cold Cream, "Cosmetique," Veterinary, "Scalpene" (a more fluid form for a hair dressing), and a soap. These are all admirable preparations, those having a perfume being delicately scented. The cold cream is particularly desirable. The packages are in excellent taste and of choice materials, and are sure to be salable.

HAMMOND & JONES, of Baltimore, Md., send for our inspection a great variety of **Prescription Papers, Druggists' Envelopes, Bill Heads,** etc., as well as samples of Seidlitz papers of extra quality. This firm make a specialty of the miscellaneous printing essential to every branch of the drug business, and the office of a physician. We note price-cards, wax-seals, leather cases for prescription cards, memorandum and account books, powder and wrapping papers, comb and tooth-brush envelopes, private labels, and business cards, soda checks, etc. The samples received are of excellent material and workmanship.

LAWRENCE & MARTIN, of Chicago, and 6 Barclay st., New York, make a **"Tolu Rock and Rye"** which they claim to be a "diffusive stimulant," and which the officers of Internal Revenue at Washington—who are reputed to be judges—think partakes sufficiently of the nature of a medicine to be salable without the dealer being obliged to pay a special tax as a liquor dealer.

"Vinum Nutrio Phosphaticum" is the name given by the ORTHOZOIC CHEMICAL ASSOCIATION, at 1200 Broadway, New York, to a preparation composed of a solution of tribasic phosphates of calcium, potassium, sodium, and magnesium in grape-juice, and which serves as an agreeable mode of administering these remedies. The compound contains traces also of iron, but not a sufficient amount to be detected by the sense of taste.

"Capital City Florida Water" is none the less agreeable as a toilet preparation because its title is a pun on the seat of the State Government (Albany), where it is made by WILLARD E. MARSTON.

The manufacturer has been successful in discovering a formula which furnished an extremely agreeable and lasting perfume at a moderate price. The bottles are of good size and decorated with a handsome and appropriate label. The sale of this preparation has been steadily on the increase since the commencement of its manufacture, although no attempts have been made to push it by advertising.

Still another candidate for the patronage of those who are preparing for the holiday trade is the **perfumery** manufactured by EASTMAN & BROTHERS, of Philadelphia. The sample of triple extract which they send for our inspection is put up in octagonal bottles with ball-top ground stoppers, and is of a rich, spicy odor, well calculated to suit the taste of all lovers of perfumery. The bladder used for capping is ingeniously applied, so as to leave the top of the glass stopper uncovered, thereby adding to the good effect of the goods as shown in a case.

RICKSECKER'S perfumes are rarely equaled either in their delicacy and purity or in the style in which they are put up. We seldom see anything appoaching, in attractive qualities his **"White Clover,"** put up in a new style of bottle, with a ground-glass stopper, the whole of which, as well as the bottle, are cut in octagonal facets, traversed by deep horizontal grooves. The label is borne on the neck, leaving little to interfere with the brilliant effect of the polished glass, and the stopper is held in place with pink floss silk. This is but one of a series of choice odors.

ITEMS.

Presentation to Prof. Attfield.—At the conclusion of the Proceedings of the British Pharmaceutical Conference, held at Swansea in September last, Prof. Attfield was made the recipient of a valuable collection of about 500 volumes of general literature, which were presented, together with appropriate resolutions, by members of the Brit. Pharm. Conference, in appreciation of his services as Senior Honorary Secretary, from the foundation of the Conference in Newcastle-on-Tyne in 1863, until its meeting at Swansea in 1880. Prof. Attfield has also been elected a fellow of the Royal Society.

Heveenoid.—Under this name a caoutchouc mass is in the market which is said to excel rubber itself in flexibility, durability, and insolubility. It was invented by Henry Gerner, New York, and is patented in this country and in Europe. In New York the manufacture of the substance is carried on by the Heveenoid Manufacturing Co. There are two kinds of heveenoid; the *soft* is composed of rubber 2, camphor 2, lime $\frac{1}{16}$, sulphur $\frac{1}{2}$ part; the *hard* consists of rubber 3, camphor 2, glycerin $\frac{1}{16}$, sulphur 8 parts.

Pharmacy and Medicine in New Zealand.—According to the census of New Zealand in 1878, the colony contained 273 chemists, druggists, and assistants, one

of whom was a woman; there were 273 medical men, 5 medical students, 6 irregular practitioners, 40 dentists, 57 midwives, and 9 others connected with medicine, including one aurist, one chiropodist, one dispenser, two doctor's assistants, one manufacturer of liniment, one medical galvanist, one professor of medicine, and a non-descript. The chemists are classified among professional men. The total population of the colony is 230,998 males and 183,414 females.—*Chem. and Drug.*

Dr. Philip Phœbus, for many years Professor of Pharmacognosy, etc., at the Uuiversity of Giessen, who celebrated his semi-centennial doctorate on June 16th, 1877, died on July 1st, aged 76 years. The pharmaceutical world has, for a number of years, expected the publication, under his direction, of an International Pharmacopœia, on which he spent almost all his available time since 1868, as well as a good deal of money. Unfortunately, the work has remained a manuscript, and has probably now been deposited in the library of the University of Göttingen (as was the wish of the author in case of his death), as no publisher could be found who would undertake its publication.

Belgian Pharmacopœia.—The new Belgian pharmacopœia is announced as completed, and only requires translation into Latin, so that it may be expected to be issued before the close of this year.

John J. Frost of Lexington, Ky., who has filled the office of President of the Board of Pharmacy of the State of Kentucky from its formation in 1874 up to the time of his death, died at his home, at Lexington, on the 1st of June last.

James Lawrence Schieffelin, who died in this city on the 11th of September, was for many years a member of the firm of W. H. Schieffelin & Co., one of the old drug houses in New York. Mr. Schieffelin was the direct descendant (grandson) of Jacob Schieffelin, the founder of a commercial house that has now endured nearly a century, having been started in a modest way soon after the close of the Revolutionary war, and successfully weathered every financial crisis of the last hundred years. Trained in early youth to the drug business, Mr. Schieffelin became a member of the house founded by his grandfather while he was yet a young man. His disposition was extremely retiring, and his ambition moderate; and, being unmarried, he withdrew from the firm after amassing a sufficient competence, at the age of 50 years, and while still in the maturity of his powers. During the last 15 years he has lived a retired life.

Tea successfully raised in Georgia.—A special report from Washington to the *World* states that the officials of the Agricultural Bureau are very much gratified at the progress in tea raising in the South. A Mr. Jackson, who has over thirty-five thousand tea plants on his farm near Savannah, Ga., recently sent to the Commissioner of Agriculture a tin box containing several samples of the tea raised on his farm. The commissioner subsequently took the samples to New York and went incognito to one of the largest tea establishments there, representing that he had some tea to sell. An expert was called in to examine the tea, and he pronounced it India tea, worth fifty cents per pound.

Commissioner Le Duc then had difficulty in convincing the expert that the tea was grown in this country and could be produced for one-third the price named. The tea is represented as being very palatable and difficult to distinguish from the imported article.

Provision having been made by Congress for the establishment of a tea farm, arrangements are now making at the Agricultural Bureau looking to the selection of a place in South Carolina for the experiment. There are constant applications to the bureau for tea plants, and it is expected that in a short time hundreds of thousands of plants will be growing in this country. The Commissioner thinks that it is only a question of a short time when capitalists will begin to see the immense profits to be realized from tea raising, and in a few years he expects that the United States will be producing as much tea and sugar as may be needed for home consumption.

[*Continued from page 321.*]

sponsible for any error which he may have committed. Yet we hold it to be the duty of every conscientious pharmacist to *refuse* a copy when it is expressly specified on the prescription that it is *not to be renewed.* The ownership of the patient in such a prescription undoubtedly ceases as soon as the remedy directed by it has been delivered to him. While the practice of retaining the original prescription and furnishing a copy to the patient may not be absolutely tenable in law, yet public policy and the safety of the rights of individuals seem to demand it, and, if need be, it should be legalized by some enactment.

Export of Musk to England.—The quantity of musk exported from India to England for the year 1878–9 reached 3,444 ounces.

Jamaica Cinchona was for the first time offered at the drug sales in London last month. The red bark realized one dollar per pound, and the crown bark a dollar and a half. The cultivation of cinchona on the island is a recent undertaking, but promises well.

The sales of the bark so far have reached about $25,000.

Loss of Gold in Coining.—In coining $20,000,000 in silver and $22,000,000 in gold at the San Francisco Mint, in 1878, there was lost only $29. The carpet which had been down five years was taken up last spring, cut up into small pieces, and burned in pans. The *débris* was put through the same process as the mining dust, and there was got from the old carpet $2,500!—*Scient. Amer.*

Nitroglycerin was given by an English physician in a dose of one drop of a 1% solution to a lady suffering from belly-ache. In two minutes the pulse fell from 140 to 50 beats per minute, the face became covered with sweat and the patient lost consciousness. Stimulant inhalations and brandy restored her to consciousness in about three minutes. The pain was entirely gone and did not return for twenty-four hours, but the patient had a singular impression of duality which continued for some time.

PHARMACEUTICAL CALENDAR.—Nov.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., will oblige us by forwarding schedules of their meetings, lists of officers, and any changes that may be desirable.

Date.	Society Meetings.
1st, Mon.	Erie County Ph. Ass.—Monthly Meet.
2d, Tues.	Phila. Coll. Pharm.—Trust. Meet.
4th, Thur.	N. Y. Coll. Ph.—Trustees' Meet.
	Louisville Coll. Ph.—Pharm. Meet.
	Phila. Coll. Ph.—Alumni Meet.
	Massach. Coll. Ph.—Trust. Meet.
9th, Tues.	St. Louis Coll. Ph.—Pharm. Meet.
	National Coll. Ph.—Trust. Meet.
	Massach. Coll. Pharm.—Pharm. Meet.
	Kings Co. Pharm. Soc.—Monthly Meet.
	Pittsburgh Coll. Ph.—Trust. Meet.
10th, Wed.	Cincinnati Coll. Ph.—Pharm. Meet.
11th, Thur.	Newark Pharm. Assoc.—Monthly Meet.
	N. Y. Germ. Apoth. Soc.—Monthly Meet.
	Louisville Coll. Ph.—Directors' Meet.
	Maryland Coll. Ph.—Meeting.
6th, Tues.	St. Louis Coll. Pharm.—Trust. Meet. and Alumni Meet.
	Phila. Coll. Ph.—Pharm. Meet.